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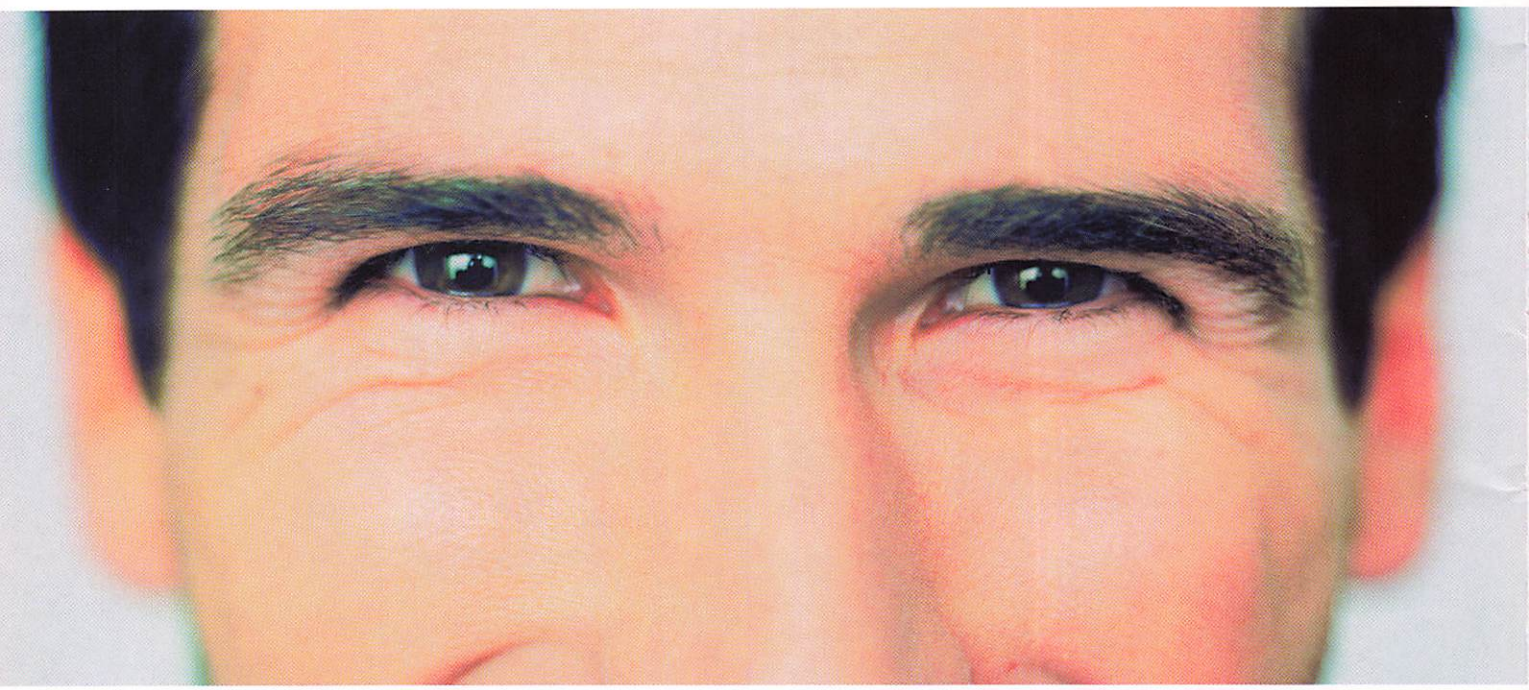

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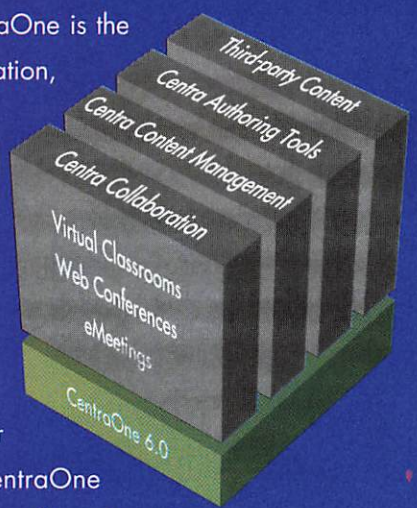

Centra®

VOLUME 6 NO. 6 SUMMER 2002

online learning magazine™

Innovative strategies for business

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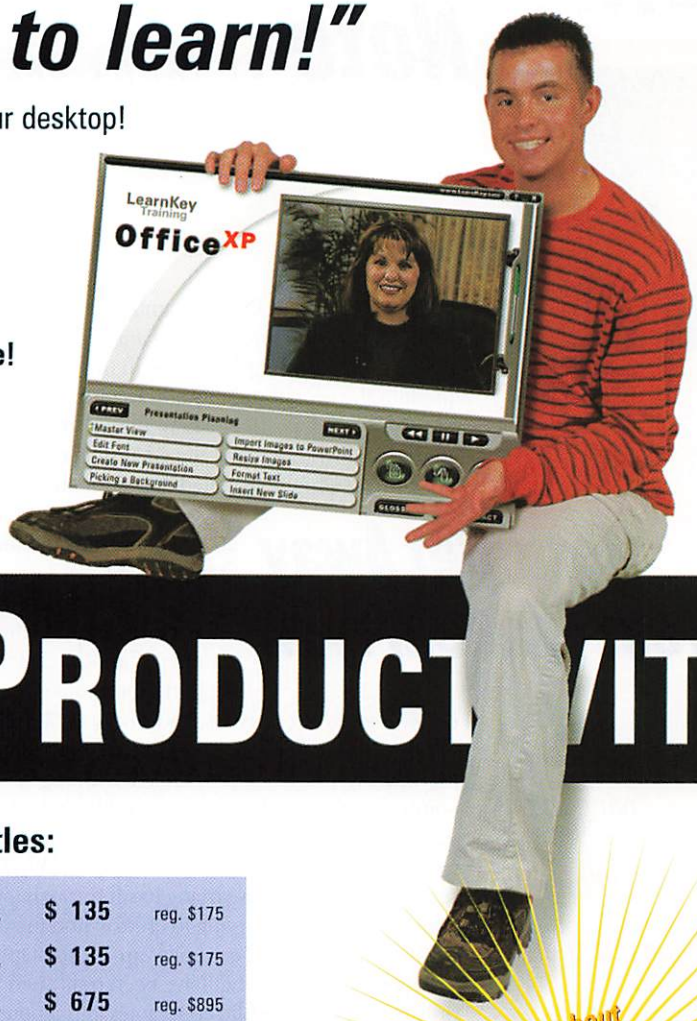

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Editor's Note

BY TAMMY GALVIN

Toto, Get Away From That Curtain!

ALTHOUGH I DIDN'T recognize the caller's voice, the message came through loud and clear: How dare we—*Online Learning Magazine* in this case—question the overall stability and financial viability of e-learning vendors. To be fair to the caller, we did do more than just "question" the e-learning community. We sent out a highly detailed questionnaire that was to rank e-learning vendors on an exhaustive combination of financial data, years in business, number (and length of) customer implementations, number of full-time ISD and support professionals, employee turnover, layoffs, and a bevy of other things.

Trying to sift through all the hype out there is like trying to quickly find the ace of hearts in a game of 52-card pick-up.

Irate as the caller was, he admitted to the fact that there are far more non-profitable e-learning companies than profitable ones, and he incredulously questioned why any "industry leading" magazine would want to bring such issues to light. "Why?" Let's see, perhaps it's because trying to sift through all the hype out there is like trying to quickly find the ace of hearts in a game of 52-card pick-up. Or perhaps it's because the rankings that have been published to date only profile select public companies and ignore the private ones as if they don't exist when, in reality, many of them have been around longer—and have not only achieved, but also sustained profitability. Or perhap it's simply because we're trying to do our jobs, to help move this industry forward and to continue to give our readers *useful* information as opposed to regurgitated hype.

I guess the caller failed to realize that as actual readers of this magazine, you can likewise read financial statements, watch ticker-tapes and eventually draw your own conclusions based on readily available information. Unfortunately, the ranking won't be presented in these pages—at least not for the next few issues. While we give kudos to those vendors who did respond, it seems a critical mass of their e-learning peers shared our cowardice caller's opinions about what we were trying to do and aren't ready to step out from behind the wizard's curtain.

Tammy Galvin

Executive Editor

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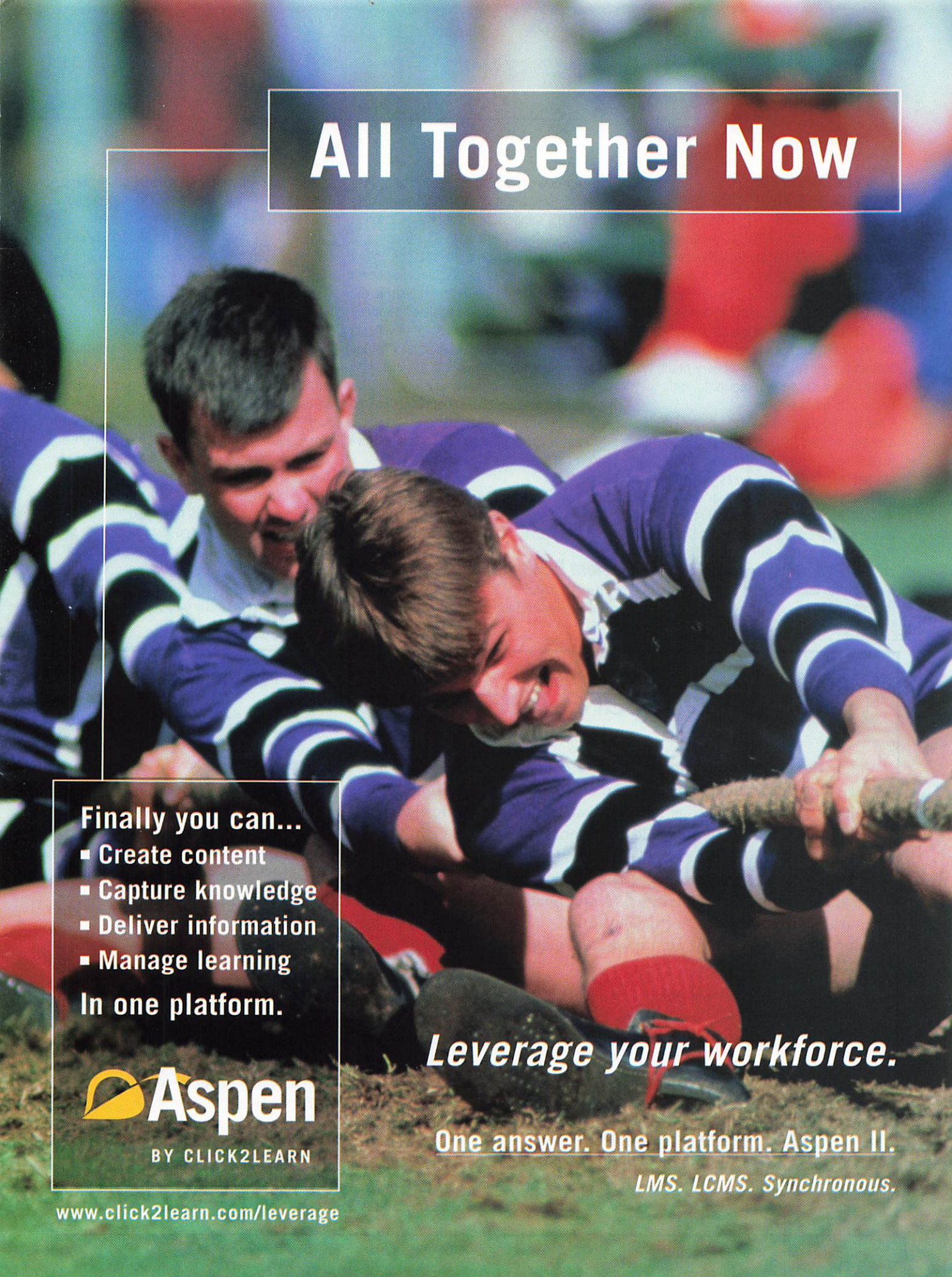
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Kreme of the Crop

YOUR "ON THE RISE" article (April) was wonderful. I read it and shared it with my training team and several people at my company, Gate Marketing in Jacksonville, Fla. Four years ago the training team had a dream: We were going to create Gate University. It would comprise 10 modules and be designed to train our entry-level employees in seven states. We wanted it to utilize animation, clip art, media streaming, video, etc. It was very much like what Krispy Kreme wanted to do, only they began with management.

We designed a database that captured the test data and we used that information each Monday to rank the supervisors and store managers. We started with 2,000 employees spread across seven states who needed training. This week we had only two employees who hadn't completed all the modules. We partnered with Steel Beach Productions, wrote our data and rolled out on CD-ROM. Our efforts were featured on the front page of the Jacksonville Business Journal in June of 2000.

We are now developing our second campus to address training the management. We are utilizing many of the same materials but we are creating it in-house. It will comprise 35-40 hours of training. The employee will test at the end of each module and must attain a score of 85 percent or above in order to keep from repeating the course. We will also be able to view how much time is required for each employee to answer each question. That will let us know what areas they are struggling in and also allow us to find questions that may be too difficult or too easy. This is a clear mandate for employees that Gate is committed to the careers of its employees.

Thanks again for the wonderful article and give my best to the people at Krispy Kreme.

Teresa G. Thomas
Director of Training & Development
Gate Marketing Co.
Jacksonville, Fla.

More Taliban Talk

THANK YOU FOR A great magazine. Your "Talking to the Taliban" article (April) will be interesting for all your readers. I wish it had been long enough to tell more of the story, including Joe Ganci's and Dazzeltech's involvement.

Marie Callahan
CBT Developer
Washington Consulting Group
Palmdale, Calif.

Proud to be UCSD

WHILE I ENJOYED your article on Internet2 applications (April), I was surprised by one omission. You mentioned numerous universities, including Washington, Maine, Stanford, North Carolina, Texas Medical Center, New York, and Renselaer Polytechnic Institute. However, even though you mentioned our beautiful city, San Diego, you omitted that Cal (IT)2 is a partnership between the University of California, San Diego, UC Irvine and the private sector. In addition to his position as director of Cal (IT)2, Larry Smarr is also professor of computer science and engineering at UCSD.

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For the agencies responsible for protecting Homeland Security, efficient and effective learning and knowledge management is quite literally a matter of life or death. Agencies such as the FBI, INS, FEMA, and the Defense Intelligence Agency were forced to respond quickly to the new requirements and policies arising from last year's tragic events, performing such mission critical tasks as training their existing staff, quickly assimilating new employees, and managing knowledge. To meet the new challenges they face in the post-September 11th world, these agencies have chosen to rely on the Meridian KSI Knowledge Centre™. Through independent evaluations, these agencies repeatedly selected the Knowledge Centre for enterprise-wide implementation.

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The FBI selected the Meridian KSI Knowledge Centre™ as the learning management system to meet the needs of their employees and state and local law enforcement officers. During the selection process, 24 different systems were tested before the FBI narrowed the field to six vendors for a shootout within their secure environment. Of the six vendors, and on three different evaluative metrics, Meridian KSI was the top choice.

you mention in your article. In fact, our bumper stickers read, "Proud to Be—UCSD!" We hope that you won't overlook our campus in the future!

Donna Mulcahy
Project Manager, Web-based Learning
Staff Education and Development
University of California, San Diego
La Jolla, Calif.

Language Breaks

I REALLY ENJOYED reading your article, "Language of Business," (March) on English language training. One thing that struck me was the assumption by some of the people interviewed that everyone would spend an hour or more at a time on online language reinforcement training. Besides the cultural factors that can prevent learning, maybe one consideration that should be taken into account is the amount of time people need to spend doing it.

Having taken a few online courses myself, the one problem I have faced is finding a big enough block of time to spend. Maybe there should be the possibility of 10- to 15-minute segments of practice that could be worked into someone's daily schedule. Sending an e-mail with a link to a short refresher might help to encourage people.

Nancy Bruetsch
Instructional Designer
Wackenut Services
Albuquerque, N.M.

I've got Legos

I CURRENTLY WORK as an instructional designer in a large tech company and am part of a team that designs and develops "tools-based" training for our external customers. Prior to this, having also spent a number of years as an independent custom-content guy, I can certainly agree with much of what John Hartnett says regarding clients' wanting it "their way" in his "Where Have All the Legos Gone?" column (February). However, the challenges that my colleagues and I currently face also provide me with a different perspective regarding the value of reusable learning objects. Although we still have a long way to go in our RLO implementation efforts, we think they have many potential uses.

In short, we provide a number of different courses (in both Web-based and instructor-led formats) to our customers. Although much of the specific task-based content is unique to each given course, there is a great deal of common information that is relevant across a number of courses. Hence, the great potential for sharing RLOs.

In addition to sharing across courses, because we offer a number of specific courses in both WBT or ILT format, we also see these same benefits by sharing across media. So, in short, the impetus, challenge and potential benefit of RLOs seem to be alive and well here in our corporate world.

Thanks for the article. Keep up the good work!

Doug Cross
Senior Instructional Designer
Rational Software
Lexington, Mass.

Write us

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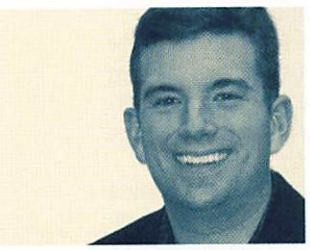


CONTENT CORNER
MIKE FLANAGAN

Playback Media
www.playback.com

WHEN YOU DELIVER video-based training via the Web, many things can go wrong; so many, in fact, that I usually avoid courses that use lots of video. But a recent experience with a series of short, video-intensive customer-service courses from Playback Media caused me to rethink that opinion. I'm changing my position in part because the designers managed to avoid or mitigate three of the most common pitfalls that plague Web-based video today:

Talking-Head Commentators. Someday, all e-learners will have broadband connections and the hardware to support rich media. Until that day arrives, video images of a single person speaking are a waste of resources, as jerky images of moving lips don't add enough value to justify the extra bandwidth they consume. Playback Media sidesteps this problem by using most of its video for more dynamic presentations. Some are typical scenarios that demonstrate customer-service transactions, but the more interesting segments have paired narrators delivering course material. Their back-and-forth banter, combined with music and graphics, create a high-energy presentation that is engaging enough to justify the larger file sizes necessary for video delivery.

Lack of interactivity. The case for interactivity has been made many times, so the point here is simple: Video doesn't have it. Video presentations can be compelling, engaging and even transforming, but they don't ask learners to *do* anything. Playback Media addresses this issue by delivering its content in short bursts instead of an unbroken stream, and by punctuating each of these sections with a scored exercise. A traditional end-of-course assessment reinforces each of these main points.

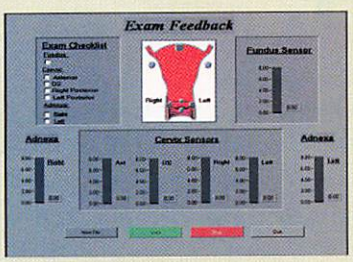
Lack of control. Great e-learning puts learners in control of their experiences, allowing them to explore, investigate and experiment. Too often, learners sacrifice their control as soon as they push "play." As a linear medium, video doesn't allow browsing or exploration, and "fast forward" is a poor substitute. Playback's solution is to provide a full-text transcript of the course, with every phrase linked to the appropriate section of the video. The solution isn't perfect—an odd formatting and parsing scheme makes the transcript less easy to read than it could be—but the ability to skim the course and jump to relevant sections is a marked improvement.

Video-based learning still has drawbacks, of course. It's expensive to shoot and difficult to update, and the nuances captured by the camera are unforgiving of bad acting or wooden dialogue. But these courses still represent progress. Learners, stay tuned.

Mike Flanagan (mike@lguide.com) is vice president of research and consulting at Lguide.com, an e-learning research and consulting firm in Tacoma, Wash.

BELIEVE IT OR NOT

E-Pelvis



RESEARCHERS AT THE Stanford School of Medicine have developed the strangest course ever to receive the appellation of "E"—the E-Pelvis. Described by one student as "rubber wrapped around things that look like legs," the E-Pelvis is an electronic sensor-imbued pelvic model attached to a computer. The computer monitors the location and intensity of a student's touch. Use of such technology has even proven to be more accurate at determining a student's pelvic-examining proficiency than tests conducted with actual patients. And students say it's much less embarrassing, too.

—E.W.

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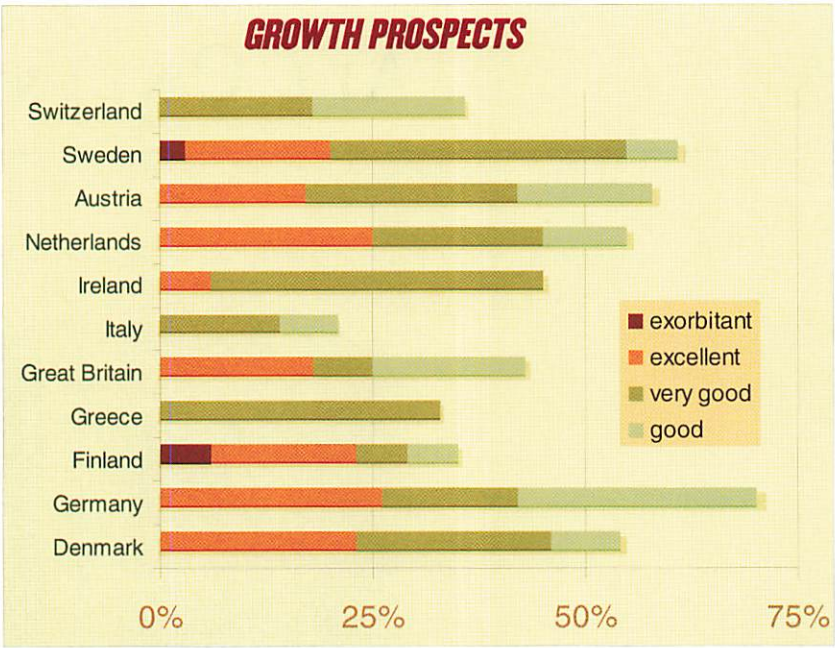
INDUSTRY EYES HAVE been on Western Europe's corporate e-learning market ever since a 2001 estimate deemed the region the fastest growing market—and one that might reach $4 billion in revenue by 2004. Now this estimate, made the International Data Corp., Framingham, Mass., has been supplemented by a new survey, "The European E-Learning Provider Market in the Beginning of 2002," recently released by HighText Verlag iBusiness, a business-to-business research and news firm based in Germany.

The report analyzes a variety of information—including the distinct growth prospects and market penetration in several European countries—from data gathered from 233 European e-learning providers between October 2001 and January 2002.



The full report can be purchased at http://www.ibusiness.de/shop/

Jeepers Veepers

THE FIRST TIME you see a Veeper you might think that you're looking at a typical video presentation. Then, depending on whether androids give you the willies, you are either blown away or freaked out by the lifelike virtual person staring back at you.

This new "emotive interface" technology developed by San Francisco Web media developer Pulse might replace much of the typical video content—at least the talking head variety—so prevalent in e-learning today.

First, Veepers have pure novelty value—Veeperization is both impressive and a little eerie. You start with any 2-D image of yourself (or your favorite celebrity, cat or cartoon character), load it into the program, and then drag and drop "data points" onto key movement areas of facial expression, like the corners of the eyes, mouth and eyebrows. The 2-D image is mapped onto a 3-D head and then something magical happens: The static image gets a breath of life. The eyes start to blink and the head shifts and turns slightly as if the newly created clone is patiently waiting for instructions. Before Veeperization, you were just looking at a picture. Now you feel like you are in the presence of a living thing.

The illusion of life is created by filling in areas of the face that are not visible in the original 2-D image, which allows the head to move and reveals different perspectives. Artificial eyelids and sides of the face are colored to match skin tone and virtual teeth appear slightly when the model speaks or smiles. Text-to-speech software creates an electronic voice that is a dead giveaway, but if prerecorded audio is used, the overall effect is so subtle that (unless you are normally missing a few front teeth or have them capped with gold) only you and your mom will be able to tell the difference.

Veepers also are one-tenth the cost-per-minute of professional video and take only 2 percent the file size of streaming video, making streaming video-like material available on 56k connections at broadband-like speeds. Add this economy to the ease of changing the script (just type it in), and Pulse Veepers might be the app that buries streaming video presentations for good.

Click on "Web Exclusive" at www.onlinelearningmag.com to see a demonstration of the technology.

—*E.W.*

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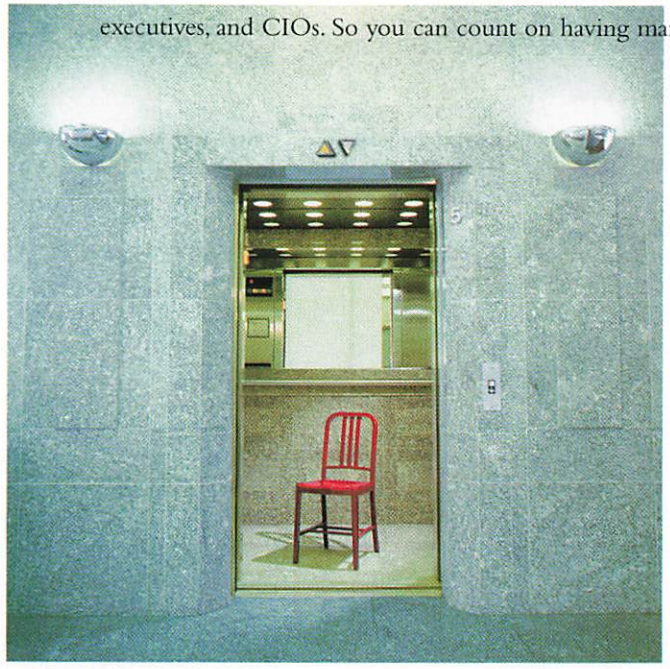

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Second Generation E-Learning?

COMPUTER SIMULATIONS HAVE been around for more than a decade. Each year prototypes amaze us and new studies laud their superiority over book- and lecture-based courses. So why aren't we seeing more of them in corporate training?

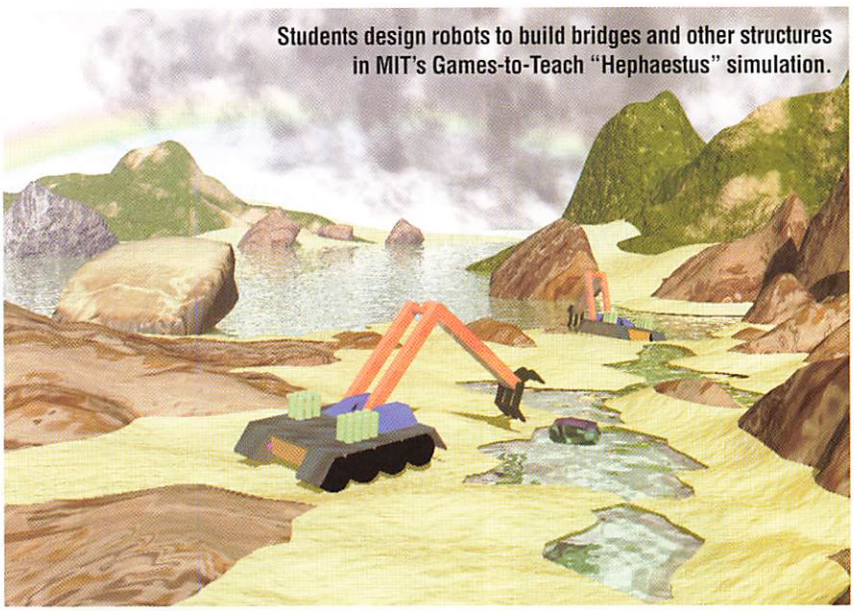
"Performance simulation is a wonderful, proven teaching method," says Len Sherman, partner of New York-based Accenture's learning division, "but the harsh reality is that it's very, very expensive to develop the old-fashioned way." He says simulations that must be built from scratch for individual clients push the price "well into the multi-million-dollar range."

But Sherman says that advances in development tools and techniques, such as customizable templates and rapid-building tools, have lowered the cost of simulations from seven figures to six.

Of course, half a million or so for a training program still isn't what most companies would consider inexpensive, but the relative decrease in cost is making simulations at least feasible, and sometimes worth the cost. Cisco Systems, San Jose, Calif., recently introduced simulations into its Cisco Certified Network Associate certification exam. "Obviously, it is very expensive to create simulations," says Matt O'Donoghue, manager of learning and development at Cisco, "but when we compare that to the cost of the equipment, and to providing scenario-based training to an area where the equipment is not readily available, it is the next-best solution [to hands-on experience]."

In cases in which real mistakes are expensive or life-threatening, simulated experience is seen as even better than real experience—even in meeting rooms or sales floors, where inexperience costs companies real clients. This is a major reason why simulations are being hailed as the "second generation" of e-learning and compelling the industry to new heights of financial success.

Industry analyst and simulations designer Clark Aldrich prefers to call today's simulations "generation 1.5," since he believes that the ascendant days of simulations have yet to arrive. Simulations are expensive to produce, says Aldrich, especially the "flight simulator" types that everybody wants, but few can afford.



Students design robots to build bridges and other structures in MIT's Games-to-Teach "Hephaestus" simulation.

What they get instead, he says, are "branching model" simulations that are less open-ended and more experience-based than the flight simulator model—more comparable to a choose-your-own-adventure story than the business equivalent of a Chuck Yeager F-15 game. Aldrich says these products are cheaper, more common and appropriate for how they are used, but too many buyers are frustrated by simulation companies that "talk the flight simulator talk, but sell the branching story product."

Aldrich is optimistic, however, that simulation "middleware"—authoring tools that make it cheaper and quicker to design flight simulator style simulations—will eventually appear over the next few years, driving down the price and opening the products to a wider market.

Maybe simulations aren't going mainstream just yet, but powerful forces are gathering on the horizon, led by the most voluminous in the IT sky: Microsoft. The Redmond, Wash.-based company's Games-to-Teach partnership with the Massachusetts Institute of Technology is a pioneer in creating next generation advanced learning simulations. "Deep immersion" is how Randy Hinrichs, group research manager for the Learning Science and Technology group within Microsoft Research, describes them. Such simulations allow engineering students to graft virtual pieces of iron into the structural supports of a bridge in real time, or medical students to virtually meddle with parts inside the human body to see what happens during a procedure.

The Games-to-Teach program is one part of a Microsoft-led coalition of academic and private research partners, called The Learning Federation, that have created prototypes like these. The Federation is exploring technology that will allow an instructor to "rapidly create objects in a learning simulation world," says Hinrichs. A distribution model could use something like the Xbox game system to cheaply bring high-end graphic capabilities into the corporate training room. Pie in the sky? Aldrich says that while these high-end simulations will never be as prevalent as simpler forms of e-learning, "they will be the real visible sign of coherence in the industry."

—*E.W.*

ASK BRYAN

BRYAN CHAPMAN

Dear Bryan,
You wrote an article a while back recommending low-cost solutions for authoring e-learning content. Can you give similar advice for someone who is trying to find a learning management system (LMS) that will launch and track online courses, while still staying within the confines of a very tight budget?

—*Discounted Enterprise*

Dear DE,
How does free sound? There are a couple of systems that come about as close to free as you can get for an LMS. The first is called Xtention LMS from Xtend Corp. (www.teamxtend.com). If all you want to do is launch and track standards-compliant e-learning courses, you can download the core of Xtend's LMS and use it for free. This system has a fairly robust course catalog system and reporting module. However, as with all things "free," there is a slight catch. It will cost you if you want to add additional functionality such as classroom management, a 360-degree evaluation tool, etc. You also should know that there is no access to phone support with the free system. At the same time, it might just fit the need as it is, without purchasing the add-ons. The coolest thing about the system is that it conforms to SCORM as well.

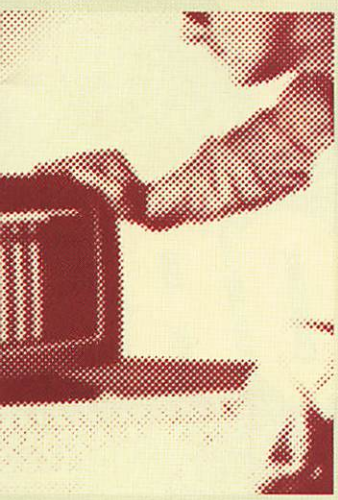
Another "free" system comes from TraCorp (www.tracorp.com). The catch is that you have to pay for a minimum of three hours of custom courseware development (at a rate starting at about $2,800 per finished hour). The nice thing about this deal is that, once online, you will have some content to add to your system.

Here are some other LMSs that have pricing models that favor low-cost implementations for small to midsized implementations:

WBT Manager (www.ielearning.com)
OnTrack (www.dksystems.com)
Oracle iLearning (www.oracle.com/ilearning)
KnowledgeBridge (www.websoft.com)
LearnCenter (www.learn.com)
TrainerSoft Manager (www.trainersoft.com)
IntraLearn (www.intralearn.com)
SocratEase (www.socratease.com)
WebMentor (www.avilar.com)
Knowledge Centre (www.meridianksi.com)

Finally, *Online Learning Magazine* and brandon-hall.com are co-sponsoring a Shootout event at the Online Learning Conference in Anaheim, Calif., Sept. 23-25. We've invited 12 teams, including some of those listed above, to demonstrate how their solutions would match the needs of a company with only 250 learners and a limited budget. It is a great opportunity to see some of these LMS products in a side-by-side comparison. For more information, see www.onlinelearningconference.com or turn to page 48 to see the results from our lates shootouts.

Simulating Certification



GIVEN THE PREVALENT role that Cisco System's routers, switches and software applications play in the intricate anatomy of the Internet, it's no wonder Cisco's certifications have gained such prominence. For IT professionals, a Cisco certification can be a great bargaining chip in the job market. Now, test-taking at Cisco just got more thorough, more hands-on and more *real* with the introduction of simulation-based exams to Cisco's career certifications program.

With this addition, the San Jose, Calif.-based Internet networking company plans to validate hands-on skills in addition to knowledge.

The first certification track to adopt the simulation-based exams was the CCNA (Cisco Certified Network Associate) back in March 2002. The new CCNA exam models real-life networking scenarios for test takers by requiring them to apply troubleshooting and problem-solving skills to address realistic problems.

In addition to standard multiple choice and fill-in response questions, candidates will be required to perform tasks on simulated devices designed to measure a candidate's ability to execute tasks appropriate to the level of certification. The scenarios better emulate real life and therefore are better able to measure a student's degree of knowledge and skill. That a candidate can complete a task with the right commands in the right order—and understand when the task is complete—is an example of this.

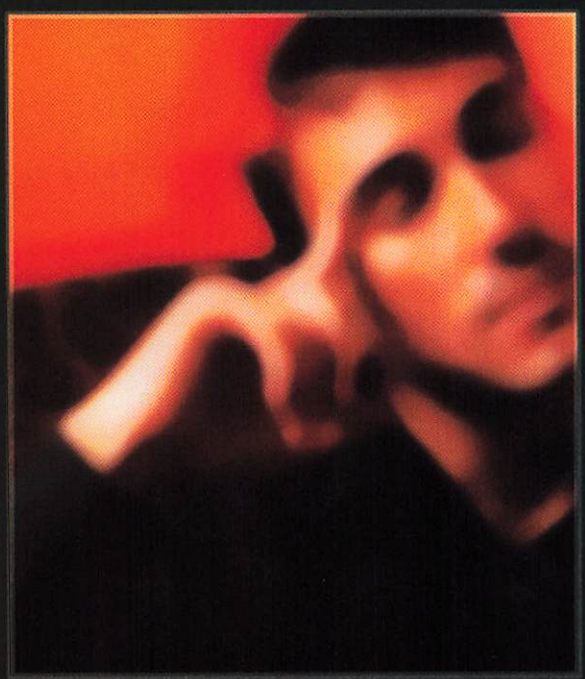
Certification exams will continue to be added to recommended courses over time.

"At Cisco, we have an ongoing commitment to finding ways of ensuring that learning is relevant, skills-based and delivers value to our employees, customers and channel partners," says Cisco's vice president of Internet learning solutions group at Tom Kelly. "Cisco certified professionals are already considered among the 'best of the best' in networking technologies in the industry. Adding simulations to our career certification program will give individuals, employers and the industry as a whole greater confidence in the competence of certified individuals."

—*H.J.*

SCORM!

SCORM IS BEGINNING TO CHANGE THE E-LEARNING INDUSTRY,



CLARITY OR

BUT WILL IT CLARIFY AND STRENGTHEN IT OR LEAD IT INTO DISASTER?

"THE SCORM SPEC is going to be successful almost by default, but it's in danger of becoming instructionally irrelevant." So says Thor Anderson, director of developer support at the Instructional Management System Global Learning Consortium (IMS) in Burlington, Mass., and technical editor of two major IMS specifications that went into SCORM, which stands for the Sharable Content Object Reference Model. SCORM—an ironically dry name for something that evokes extremes of passion and frustration within e-learning circles—is already beginning to change vendors' product and service offerings, but will it clarify and strengthen the industry or lead it into disaster?

The Department of Defense was definitely seeking clarity when it began the standards movement in 1997. The DoD resembled an über-corporation reflecting on an exaggerated scale the problem facing many global organizations: It had too many incompatible, yet

By Edward Welsch

CALAMITY?

Photography by Dan Marshall

nearly identical, learning systems and content spread across its geographically dispersed divisions.

The DoD's first order of business was to establish the Advanced Distributed Learning (ADL) initiative, a collaborative effort between government, industry and academia to create a new learning environment that would permit the interoperability of learning tools and course content. The ADL initiative has since defined several requirements for this new environment—such as content reusability, accessibility, durability and interoperability—to leverage existing practices, promote the use of technology-based learning and provide a sound economic basis for investment.

Since its inception, ADL has grown in partnerships with government, industry and academia leaders. One such partnership between the Office of the Secretary of Defense, the Office of Naval Research, the Department of Labor and the National Guard Bureau resulted in three ADL Co-Laboratories that serve as public and private sector forums for cooperative research, development and assessment of new learning technology prototypes, guidelines and specifications.

Once established, ADL's first task was to reach a consensus on a standard way to create courses and learning management systems so they would be interoperable regardless of what vendor made them. This was extremely important, not only for the government, but also for the commercial e-learning industry as well, says George Koch, team leader for the Department of Labor's Advanced Learning Technology Resource Center, Alexandria, Va.

Koch recalls a session at an e-learning consortium he attended two years ago in which the presenter asked executives at a large food service company and a large financial services firm why they hadn't purchased an LMS. Both executives cited fear as their primary reason—fear of selecting an LMS provider that might go out of business and leave them stranded with defunct, proprietary systems and no content.

"In other words, it was just too risky for consumers to buy without standards," Koch explains. "Interoperability is the essential key to get companies to invest in the nascent e-learning industry, since it is the only thing that will create a marketplace in which people feel comfortable enough to buy because they know what to expect."

In June 2000, a major leap towards interoperability took place when the ADL Co-Lab sponsored the first Plugfest—a small convention-like gathering of SCORM early adopters from government, industry and academia. The first, and four subsequent, Plugfests provided ADL partners with the opportunity to synchronize the evolution and convergence of commercial authoring tools, LMSs and Web-based courses with the evolving open-architecture specification. The Plugfests—all of which have separate goals and objectives that build on previous events, results of user-testing and implementation of ADL products and specifications—also give participants a forum for sharing their experiences in converting instructional products to comply with SCORM.

The Plugfests' main purpose, according to Koch, is "to get technical people from, say, Click2Learn and NETg together and to let them work together and collaborate as they test their content and LMSs against the new specifications."

Although there still are some technical challenges to overcome, the basic infrastructure for interoperability was established in the latest version of the spec, SCORM 1.2, released last October. And with that release, ADL completed the first part of its mission. "We have actually proven that we can have content generated by a SCORM-compliant tool that is totally unknown to an LMS vendor and literally in seconds make them work together," says Claude Ostyn, a learning system strategist at Click2Learn, Bellevue, Wash. "We did the most boring part—we got the nuts and bolts working—now we are asking, 'What are we going to do with the nuts and bolts?'"

Questions like Ostyn's led to ADL's next goal: to create a basic protocol for designers to break up courses into small pieces or chunks, called reusable learning objects (RLOs). Like Lego building blocks, these objects are supposed to fit together regardless of their size, shape or color. The resulting creation could then be snapped into any SCORM-compliant learning management system.

The promise of greater efficiency behind RLOs has excited many in government and industry, but there are some major voices of dissent in the e-learning community. These opponents warn that ADL should quit while it's ahead—before it endangers the success of the standard and the e-learning industry along with it.

Advice From The W3C

IT REMAINS TO be seen whether SCORM will be simple enough to be easily implemented and yet complex enough to satisfy the needs of vendors and developers. But even if a spec is a solid one, it won't be adopted unless it is accepted by its public, says Janet Daly, director of communication at the World Wide Web Consortium (W3C), Cambridge, Mass. Daly provided the following list of general requirements for a spec to successfully become a de facto standard:

1) Keep It Simple. One of the main reasons a spec may not have "traction,"—that crucial rubber-meets-the-road enthusiastic adoption—is because the spec may be too difficult to read or implement. "It really comes down to the language of the spec," says Daly, adding that some of the specs that the W3C created began with a scope far too broad to implement in a reasonable amount of time. "We realized that in order to actually get a spec completed, we needed to pare down our scope and identify, 'What is it that we really want to do here?' We wanted to get the basic vocabulary out there, and consequently, many of the features were removed to make it simpler."

How SCORM stacks up: The jury is still out. Read about the ongoing debate in the "Technical Challenges" section of the main article.

2) Get the Public to Buy In. "There also needs to be a public component. The public needs to buy in; they need to see that this is a valuable technology and that implementing this is worthwhile," Daly says. In the W3C's case, this is the developer public, but Daly says that government, industry and research institutions often push for a technical specification, making its path to adoption easier.

At times, Daly says, there will not be resounding industry support for a spec, and this may have a variety of justifications behind it: "The industry might say, 'Our customers don't want it,' or 'You missed our code cut for product cycle,' or 'You're too far ahead.'"

How SCORM stacks up: ADL has certainly done a good job here. Awareness of SCORM among e-learning buyers is fairly high, according to

Pedagogical Sewage?

Despite the progress being made on the interoperability front, Thor Anderson of the IMS says that doesn't necessarily guarantee that what actually runs on SCORM systems will be worthwhile instructionally.

"As long as they are working in the plumbing and infrastructure domain, it's really not for the instruction-types to object," he explains. "It would be like an interior designer walking up to a new home with only the foundation and pipes running into the concrete and saying, 'This is not adequate!' That would be ridiculous," says Anderson. "But where I get concerned is the next step. The interoperability that they are promoting is just plumbing, and they don't care what goes into the pipes. It could be spring water, or it could be sewage."

Anderson believes that today's emphasis on RLOs will turn instruction into sewage. His leeriness is shared by David Merrill, an Instructional systems design expert at Utah State University's Department of instructional Technology, who claims that the very definition of an RLO is suspect. "No one seems to know what a learning object is in the first place," Merrill says. "One of the absurd definitions I heard was, 'as small as a drop, as wide as the ocean.' In other words, if everything is a learning object, then nothing is a learning object."

Definitions aside, Merrill's main objection to RLOs lies in how SCORM will try to "sequence" them. "You can't chop things up and expect them to make sense," he explains, citing the classic learning strategy of "diminishing coaching" as an example. The idea behind this strategy is that students are given a lot of help initially, and then the coaches back away to let students fend for themselves—the rationale being that the student won't learning anything if the instructor does all the work for him.

"That kind of a sequence," Merrill says, "is difficult to create if you are just stringing together a bunch of small learning objects." He explains that each RLO would come from a different course and would have no pedagogical relationship to another RLO stuck next to it.

Because much of the pedagogy is in the interactions between learning objects, much of it is irretrievably thrown out when the structure of a course is broken into objects, argues Merrill, who is not the only expert to caution against this. Click2Learn's Ostyn agrees that "the current SCORM specification is known to be deficient in the ability to capture pedagogical logic between learning objects," but he's quick to point out that sequencing will be the foundation of SCORM 1.3.

Due out later this year, the release is eagerly awaited by vendors who have been waiting for SCORM to clear up some of the ambiguities surrounding learning objects. SkillSoft, for example, would like answers to questions such as, "How do you put it all together? If you are launching all these objects, then how do you put them in the correct sequence? What are the rules of how you take all these objects and organize them for your particular organization?" says Karen Beauregard, learning standards advisor for the Nashua, N.H.-based company.

Despite the fact that IMS recently released the "simple sequencing" spec that will be at the core of this next version of SCORM, experts like Merrill still have doubts. "I don't think that these things are going to happen in code. These are things that are going to happen in the way that we organize content," he says adding that he'd like to see another standards body emerge that would create e-learning instructional standards separately from basic e-learning infrastructure standards.

Both Merrill and IMS' Anderson agree that the issue with RLOs is, at its heart, pedagogical rather than a software issue, and that ADL might not be as capable of structuring the interior design of learning as it is in building the foundation. Anderson says there needs to be more rigorous definitions of RLO metadata based on sound pedagogical principles, and that work is simply not being done by either ADL or the IMS. What's more, he believes that this is because ADL is too caught up in making sure the standard is successful that such "details" are left out.

"What I'm talking about is making content more intelligently structured, which would mean redoing existing content," Anderson says. "What SCORM is saying is, 'Hey, SmartForce, give me your courses, I will chunk them into sharable content objects, I will make them run in our system, and we will both win. What they're doing has its place in facilitating vendors with what they

Karen Beauregard of SkillSoft Corp., Nashua, N.H. Nearly all of SkillSoft's clients ask questions about the company's plans to conform with SCORM right up front. Industry support is high too, though government backing almost ensures this because it's almost impossible to sell an e-learning product or service to a governmental agency if it's not SCORM compliant (and government contracts represent a major source of revenue for e-learning providers). Custom content and simulations providers, however, have products that SCORM has yet to fully accommodate. Typically, these vendors don't place as much importance on standardizing their products since most are designed from scratch to fit any system in use.

3) Do the Education and Outreach. A general lack of industry support can be countered by doing education and outreach, advises Daly. "You need to talk to a variety of different parties. You need to talk to big industries and faster, smaller industries to make them recognize that this is an important technology and that they will want to build software that works with it."

Perhaps the best method, Daly says, is to garner consumer awareness, because if consumers don't think the spec adds value to products, adoption will be hard, at best, and impossible at worst. "You need to get [buyers] motivated and aware so that they won't buy a product unless it meets the spec."

With the proper amount of education and research, specs can be relatively easy to implement and achieve traction, says Daly. "But once the spec has all of these elements and is complete, the real work begins," she says. "We have to encourage adoption, which then means more education and outreach. The letter of the spec is complete, but the intention is not. There is still quite a bit of work to do."

How SCORM stacks up: So far, SCORM has received high marks from the vendor community for the quality of outreach efforts, of which the Plugfests are a major component. The spec document itself also is said to be clear and readable, if a bit vague at points.

—E.W.

have right now, but to really make this stuff instructionally useful and pedagogically relevant, we can't continue down this path in the future," he says.

And until these pedagogical issues surrounding RLOs are resolved, Anderson believes that SCORM's success will be limited: It will only be able to accommodate "the most basic Shovelware page-turner courses."

Technical Challenges

For one senior systems engineer who has worked on e-learning projects at Cisco Systems and as an independent consultant, witnessing SCORM's evolution has been akin to "watching an impending train wreck." These choice words are from Stephen Lahanas, who describes himself as a critic of "any standard that is difficult to implement and would defeat its own purpose" of creating simplicity and economy. For Lahanas, SCORM fails on both counts.

Some of Lahanas' foreboding comes from his experience with another IT train wreck—the CORBA spec. Like SCORM, CORBA uses objects, this time for computer programming, with the idea of saving time and money by allowing programmers to reuse chunks of code in different programs. Think Legos again. The problem, says Lahanas, is that this standard that was intended to simplify became so complex that no one wanted to use it. "It has been a colossal failure, with hundreds of thousands of dollars invested in projects that never came back," he says.

Lahanas points out that the technology standards that have been widely adopted are the ones that are easiest to implement. HTML, for example, is a language that has become ubiquitous because of its simplicity. Consequently, ADL's propensity to build more advanced features and added complexity into SCORM will only work to its disadvantage, Lahanas warns. "Instead of simplifying things and making content more affordable and accessible," he says, "SCORM is adding new layers of complexity that will drive up costs and more or less completely hamstring the entire industry."

Naturally, SCORM proponents disagree. Click2Learn's Ostyn says that SCORM, in its early stages, has already received more industry support and adoption than CORBA. And tools are already being developed that will streamline the use of SCORM for developers in the same way that Dreamweaver and FrontPage create sites in HTML, XML and Java without the user having to know these languages, according to Robby Robson, standards evangelist for Saba Software, Redwood Shores, Calif.

"The day is coming when you will simply author learning content without caring what standard or technology is behind it," says Robson, who is also chair of the Institute of Electrical and Electronic Engineer's Learning Technology Standards Committee in New York, another of the standards bodies that contributes specs to the SCORM model.

Still, Lahanas maintains that SCORM will prove to be too "monolithic and visionary" for its own good. He believes that ADL would serve the industry better in the long run by separating the specifications into levels of complexity in much the same way that the World Wide Web Consortium of Cambridge, Mass., distinguishes more basic Web development specifications (like HTML) from more complex ones (CSS and XML, see sidebar "Advice from the W3C").

Of course, a truly practical standard is one that will be used because it is simple enough to follow and flexible enough to allow for creativity: A standard that, in the final analysis, is a tool that allows you to do more, rather than a grim necessity to which you must adhere.

As David Merrill points out, ADL's most common response to criticism of its spec is, "We're not there yet." So far, SCORM has been a solid step in the right direction, but unless the guidance of its critics is taken into account, we may not like where we are when we finally get there.

EDWARD WELSCH is the assistant editor of *Online Learning Magazine*. editor@onlinelearningmag.com

Terminology: The 3Cs: Conformance, Compliance and Certification

WHAT DO VENDORS mean when they use one of these words? SCORM is a specification—or a recommendation—that vendors may voluntarily **conform** or **comply** to. These words are interchangeably used to indicate that a vendor has built its product to meet the guidelines and self-tests released by the Advanced Distributed Learning Co-Lab (ADL) in Alexandria, Va.

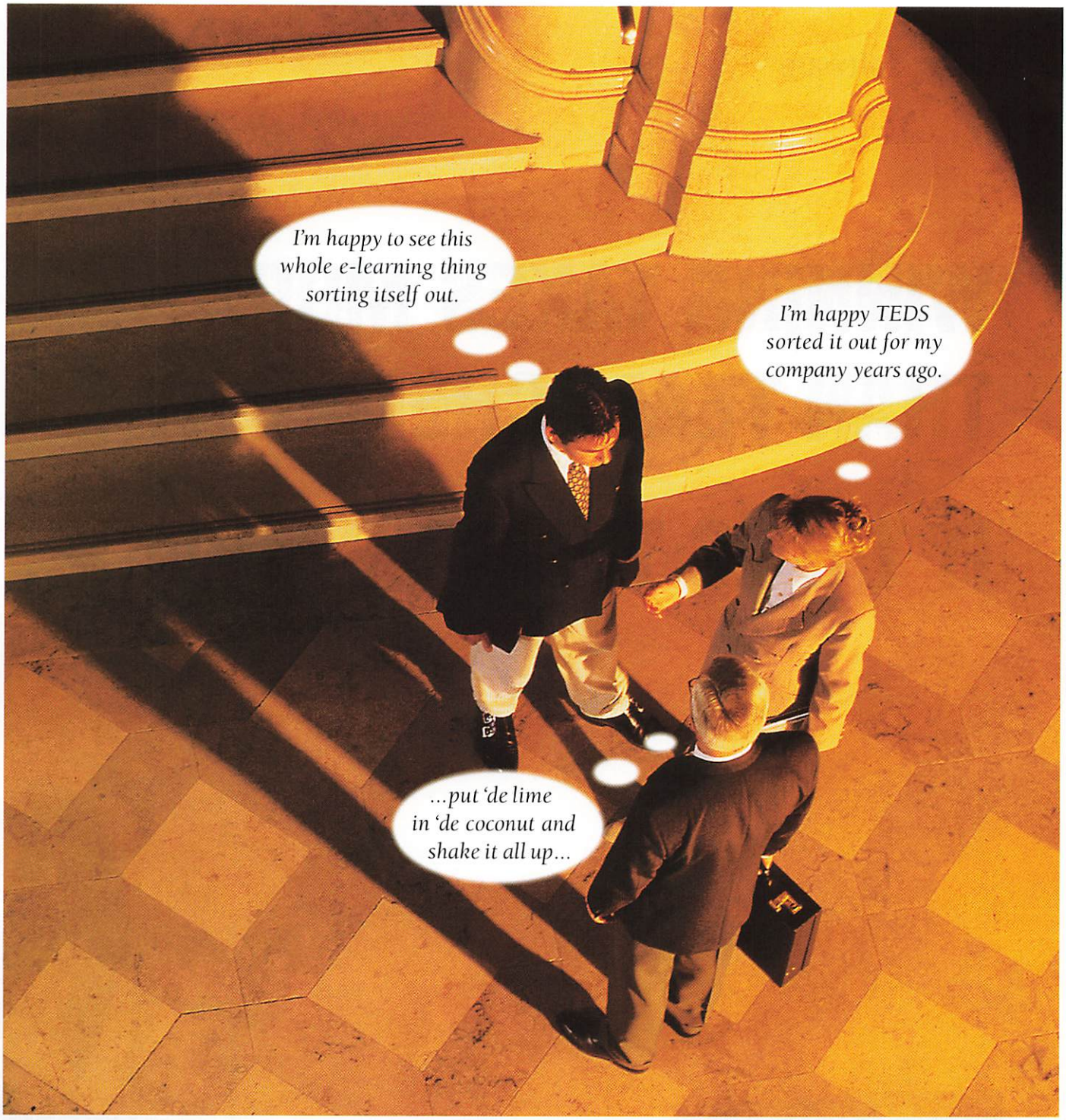
Is there a way that customers can make sure that vendors are what they say they are? Unfortunately, no, says Kevin Oakes, CEO of Click2Learn, Bellevue, Wash. "To the best of my knowledge, they simply have to take the word of the vendor. They could certainly try to run some tests themselves or query the vendor if they are familiar with the components that make up SCORM," he says.

This will change when the ADL Certification Council begins training **certification** auditors later this year. Organizations with certified auditors will be recognized as ADL Certifying Organizations and will be able to issue "ADL Certified" logos that guarantee that a vendor's product meets the letter of the spec.

Even still, Chris Helgeson, vice president of research and development for Saba, Redwood Shores, Calif., warns that even the most carefully written specs don't cover every interoperability issue that comes up. "That's why you can find two companies that are conformant and even certified, and they might still have trouble interoperating," says Helgeson. The important thing is that when companies run into issues, they report back to ADL so that the problem can be worked out in the next version of the standards, he says.

It is only after the standard has been refined through a long trial-and-error period that it is solid enough to become officially adopted by a standards body and made an official, capital-S Standard. Since new functionality is still being added to SCORM every six months or so and all the new material will have to go through the trial-and-error process, SCORM is still a long way from being an official standard. But SCORM is already a de facto standard. Since U.S. government contracts require it, vendors promote it and customers insist on it, SCORM will have staying power in corporate e-learning, whether official or not.

—*E.W.*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I'm happy TEDS sorted it out for my company years ago.
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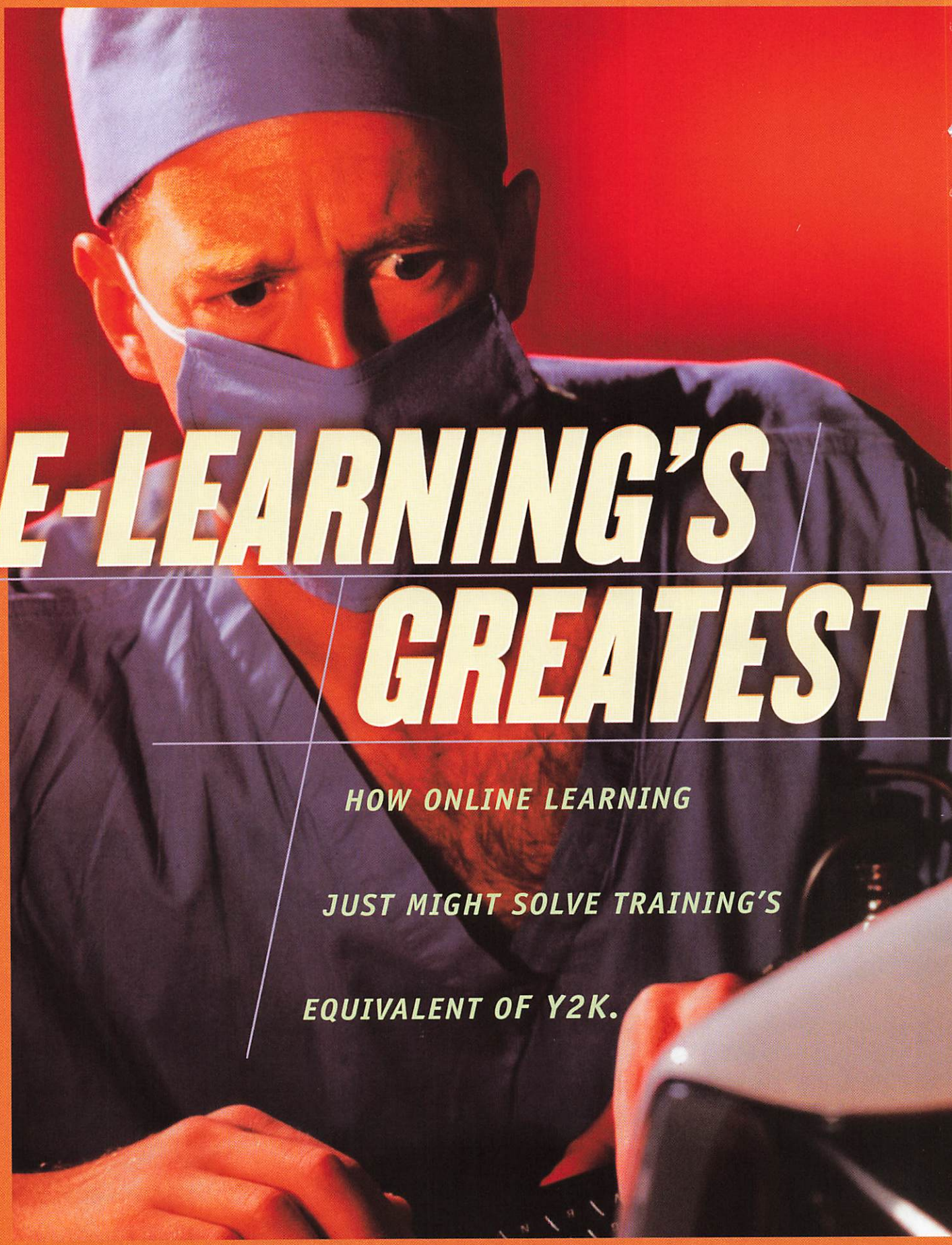
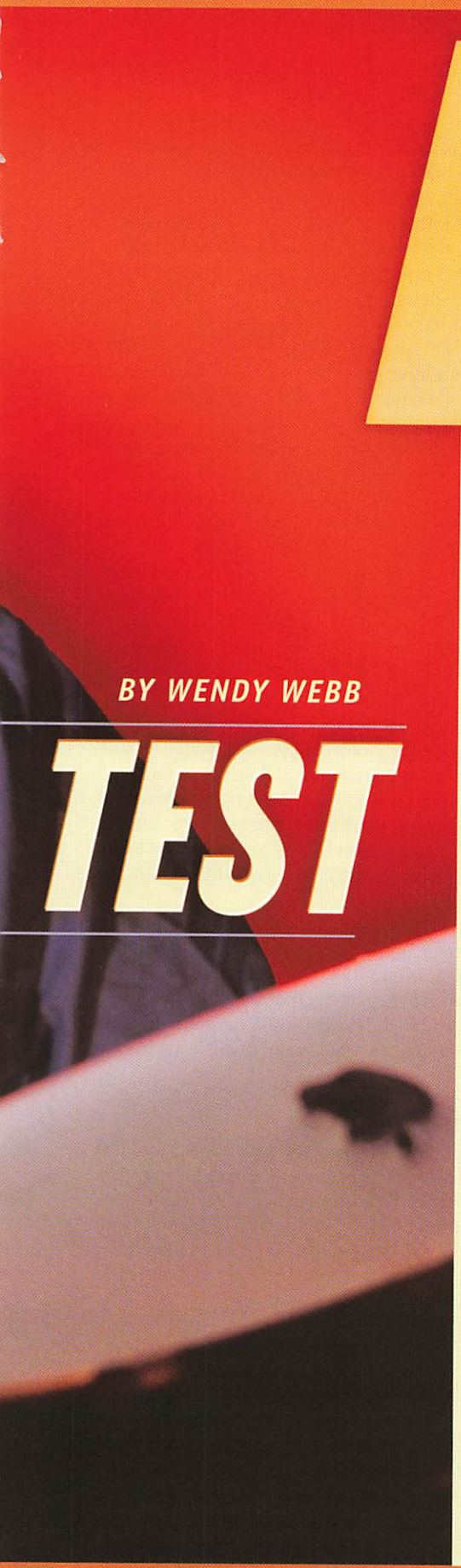


E-LEARNING'S GREATEST

HOW ONLINE LEARNING JUST MIGHT SOLVE TRAINING'S EQUIVALENT OF Y2K.



BY WENDY WEBB

TEST

PEOPLE ARE CALLING it training's Y2K, but Dr. Joseph Simon, vice president of medical informatics at Children's Healthcare of Atlanta says that's not the half of it. "Y2K?" he sniffs. "This is Y2K times four."

He's talking about HIPAA, the Health Insurance Portability and Accountability Act passed by Congress in 1996. With more than 300 pages of new regulations dealing with patient privacy, the Department of Health and Human Services is calling HIPAA the most significant law dealing with the healthcare industry since Medicare. They're not kidding. It might be the industry's most massive and complex training initiative since leeches were phased out.

The law covers all of the ways in which information about patients is conveyed, exchanged or disseminated. Charts, conversations about patients, names on emergency-room assignment boards, hastily-scribbled Post-It notes about lab tests—all of it now falls under HIPAA's watchful gaze.

Complying with the law means retraining nearly everyone in the healthcare industry—from hospital janitors to neurosurgeons—in how to behave in regard to patient privacy.

And the clock is rapidly ticking toward April 2003, the zero-hour when HIPAA compliance becomes mandatory. By then, everyone in the industry must be hip on HIPAA, and healthcare organizations are clamoring to create the training and get it done.

But, you wonder, is this last-minute training dance the result of too many grasshoppers and not enough ants? After all, the law was passed in 1996, why all the commotion now?

Well, we had an election since then, says HIPAA consultant Michael Murer, who, with his wife, Cherilyn, owns Murer Consultants, a company in Joliet, Ill., that consults with clients on a variety of legal issues. When the new administration took office, it was unclear what, if anything, would happen with the HIPAA regulations.

"We're finding that everyone was waiting for the final rules, hoping that it would give them dispensations or allow them to delay the inevitable," he says. While many healthcare organizations have already started HIPAA training, Murer estimates that a good majority of the training has yet to be implemented or even conceived.

The sand in the HIPAA hourglass is rapidly running out with little training to show for it, and the cost of the training and implementation is staggering for the healthcare industry, dwarfing that of Y2K. The American Hospital Association (AHA) estimates that the cost of the massive system overhaul necessitated by HIPAA compliance will reach upwards of $22 billion over the next five years. Some experts put the figure at almost twice that.

"These costs are just the tip of the iceberg," says AHA President Dick Davidson. "With one-third of the nation's hospitals operating in the red and some still reeling from $8 billion in Y2K costs, we need to make sure that the law's important objectives are met while making the best use of our healthcare resources."

After April 2003, the penalties for noncompliance may be severe, including lawsuits and hefty fines, says Michael Murer. "This dragon has big teeth," he says.

Big teeth and larger jaws than anyone imagined. HIPAA was intended to safeguard patient information, especially in this age of instant, electronic communication. But its boundaries quickly expanded beyond the original intent into something massive.

The idea was, you don't want somebody in your company hacking into

PHOTOGRAPHY BY DAN MARSHALL

your health records and finding your prescription for Viagra. Following an incident last year, in which drug giant Eli Lilly e-mailed a message to patients about their Prozac prescriptions but mistakenly included the e-mail addresses of all other subscribers to the Prozac e-mail service on the "To" line of the nationwide message, nobody doubts the need to protect patient information. It's a good thing, privacy.

But doctors and other healthcare professionals say the HIPAA legislation stretches far beyond the accessibility of a patient's online health records—too far, in fact. HIPAA reaches into hospital hallways, elevators and corridors, regulating who can say what about whom. It lingers in emergency rooms, ensuring patient names are no longer written on assignment boards and barring nurses from giving information to family members who phone in, desperate to hear news about their loved ones.

Dr. Joe Simon is charged with guiding his Atlanta hospital through the quagmire of expense, time and attention to minutiae that is involved in retraining his staff of 4,000 workers in the very words they may and may not speak aloud.

"This thing is huge," Simon laments.

Enter Online Learning

Massive costs that need to be minimized. A tight deadline with the clock ticking. A nation of healthcare workers that need to be trained quickly. If, right now, you're chanting: "Online learning!" you're not alone. Training vendors have been clamoring to position online learning as the lifeline that will pull the healthcare industry out of this training tar pit.

Covansys (www.convasys.com), SmartForce (www.smartforce.com), HP3 (www.hp3.net), Training Dimensions (www.trainingdimensions.com) and Learn2.com (www.learn2.com) are just a few of the many training vendors that are now offering HIPAA consulting or courseware.

Randi Upham, director of educational services for the Detroit-based Covansys global health practice, says her company formed its healthcare division just a few years ago, partly in response to HIPAA.

"As soon as we started doing HIPAA assessment work, clients asked if we did HIPAA training," she says. "It wasn't going to be as simple as Y2K, which basically was a system change. Processes themselves are going to change, and you need to train people on that."

Upham explains that their HIPAA training courses began in the classroom and will still be offered that way to clients. The 18 courses, however, run from three to eight hours each, and it's tough for healthcare organizations to allow workers to spend that kind of time away from the job.

So, Covansys developed getHIP, an online education program based on the company's classroom courseware and designed to manage HIPAA's exhaustive educational requirements online.

Like everyone who talks about HIPAA, Upham shakes her head at the enormity of it all. "Privacy became a huge issue a year ago when they extended the rule to paper," she says. "Unit clerks have lists of patients and doctors and the tests they're going to perform. Or, you'll see a patient's name outside of an exam-room door and the test orders are on a sticker." All of that—even scratching a note on a Post-It—will now require a mention in a training course.

Cherilyn and Michael Murer, of Murer Consultants, explain that one of the reasons this particular issue has become such a training quagmire is the number of positions and competencies that must be addressed.

"We don't have a seamless integration, here," says Cherilyn Murer. "We've got nurses, doctors and clinicians looking at things from a patient-care perspective. Finance is looking at it from their end. Lawyers are looking at it in terms of compliance with the law, and administration is trying to integrate all of these things."

The Murers report a great demand for online HIPAA training. "Online is the only thing that makes sense because you have such high turnover in hospitals," says Michael Murer. "That changes the way you have to train people because the people you train today won't be there in two years. So you'll probably have to retrain half your staff every two years."

Cherilyn Murer notes that the 24-hour availability of online learning solves the particular problem of training people on various shifts. "That's so much more practical than onsite training," she says. But, she continues, face-to-face training is necessary in part because of the emotions involved in implementing a change this massive. "There's a panic side of, 'How am I supposed to put my arms around something so huge?' That's best tackled in the classroom," she says.

Most of the Murer's clients prefer online HIPAA training, but they don't have a clear preference for customized training or off-the-shelf courses. "They just want something that works," Michael Murer says. "They need to get into their own culture as a hospital or health system and find out what works for them. It's difficult because there are so many vendors out there saying they've got the solution."

Putting It Into Practice

How do you translate the 300-plus pages of legalese that is the HIPAA document into workable practices and procedures for a hospital or other healthcare venues? With great difficulty, sighs Children's Healthcare of Atlanta's Dr. Joe Simon. "It has been a major effort," says Simon. "We've been working on it for 18 months."

Simon explains that part of the problem comes from the HIPAA

The American Hospital Association estimates that the cost of the massive system overhaul necessitated by HIPAA compliance will reach upwards of $22 billion over the next five years. Some experts put the figure at almost twice that.

"Online is the only thing that makes sense because you have such high turnover in hospitals. That changes the way you have to train people because the people you train today won't be there in two years. So you'll probably have to retrain half your staff every two years."

—MICHAEL MURER, CO-OWNER OF MURER CONSULTANTS, JOLIET, ILL.

law itself. It's interminably long and written in legal jargon that has less to do with an exam room than with a courtroom. "The law doesn't talk about specific practices and procedures," he says. "So the first step was to write policies that interpret the law in ways that are specific to us."

That was the hard part—translating HIPAA compliance into something workable for the hospital's daily procedures. Simon and his internal team converted the law into policies, like the Workstation Policy, the Hardcopy Record Policy, and so on.

Next came writing the training itself. Simon and his team decided on computer-based training that could be accessed on workstations throughout the hospital on the system's intranet.

"We looked at off-the-shelf programs, but we needed something specific to us," he says. So they set about writing 30-minute, interactive modules consisting mainly of a variety of scenarios that might occur in a hospital setting.

"Say you're a nurse and you get a call from a physician you're not familiar with who's asking about a certain patient, what do you do?" he says. "Or say you see an extra copy of a patient's lab work in the copy machine, what should you do with it?"

Simon and his team created a set of 25 real-world scenarios, outlining what should be done to meet HIPAA's requirements. The hospital's entire staff, 4,000 workers, will be required to take the training.

Scott Morgan still is working out the specifics of his organization's HIPAA tsunami. Morgan is director of healthcare operations for Kaiser Permanente's HIPAA program. The Oakland, Calif.-based healthcare giant has about 90,000 technical, administrative and clerical employees and about 11,000 physicians nationwide. All will need HIPAA training, including volunteers and contractors.

"Our big effort and concern is how we're going to train all of our workforce as HIPAA defines it," says Morgan. "That includes volunteers and contractors as well as everyone you would normally consider to be part of the workforce—staff of the health plan, all of the clinicians in our offices and hospitals, the physicians who work there and all the managers. We'll be training them on the security and privacy regulations and what HIPAA will require our organization to do to be compliant. It's not only the law, but how we are implementing the law."

The challenges for Kaiser come from the sheer number of people who need to be trained, getting everyone up to speed by April 2003 and training people who work on different shifts.

Not all of the training will be accomplished through e-learning, he says, but much of it likely will be. The Kaiser system already uses e-learning for a variety of other training needs such as software training and nurses' clinical training. So it's a logical transition to HIPAA training online because much of the infrastructure is already there.

"We'd like to maximize the percentage of people who can go through HIPAA training online," says Morgan. "There is greater flexibility for shifts and workload balancing. Sessions can be started and stopped so people can better fit it into their schedule."

But, e-learning doesn't solve the whole HIPAA problem for Kaiser, he says. "There's an access question," he muses. "When you get out into the work units, not every staff person has their own computer terminal. We need to look at sharing them or having the computers in a classroom setting. We're not as advanced in that area as we'd like to be."

Computer literacy is another gray area. "Not everyone in our organization would benefit as much as others from e-learning," he says. "Limited computer skills or limited English or literacy skills; all of that points to some need for instructor-led training."

And all of these issues leave Morgan wondering exactly how much this is going to cost his organization. The figures aren't yet clear.

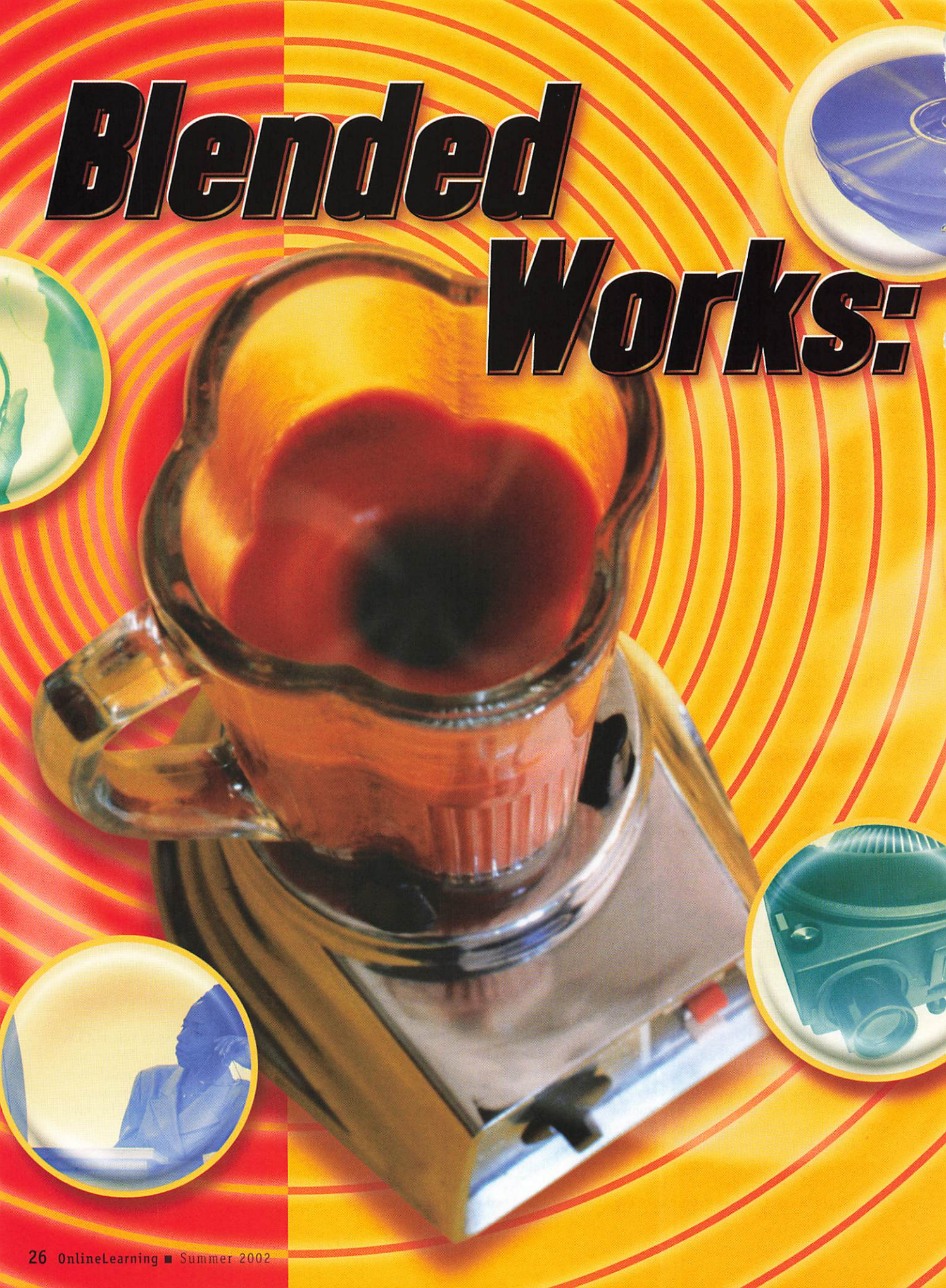
"One key cost factor is time-per-person," says Morgan. "We're looking at curriculum in terms of what needs to be trained, what the subjects are and how long we think the instruction time will take. If it takes one hour of training per person, it will be one cost. Two hours will double that cost. When you have a workforce of our size … "

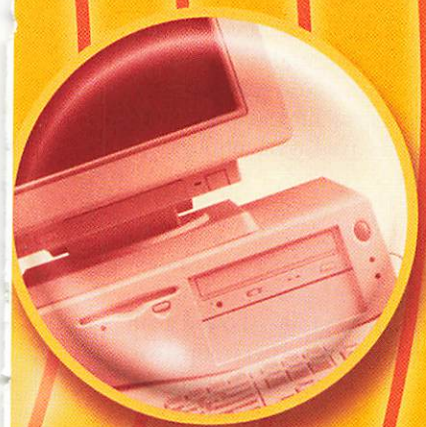
Morgan understands the comparison of HIPAA to Y2K, but like Simon, he feels that Y2K has nothing on HIPAA. "Several of our managers and staff also worked on Y2K," he says. "Y2K was much more of a pure IT project. HIPAA is a combination of IT and business policy and process. It's a culture and behavior change, and involves many more people."

Compared to HIPAA, he says, Y2K was just an irritation.

WENDY WEBB *is a freelance writer for* Online Learning Magazine. *editor@onlinelearningmag.com*

Blended Works:





Here's Proof

A two-year empirical study confirms that a structured curriculum of blended learning methods will significantly boost employee productivity over single-delivery options.

BY JEFF BARBIAN

NECESSITY MAY BE the mother of invention, but when it comes to what we need and how we integrate the technology at hand, it's all in how you blend it. This holds true for how we learn as well. As we are ever invested in, beholden to or captivated by technology, the crafty innovators of the information age continue to offer us ways to hasten and improve how we are taught. Ever since bulky projectors first flashed filmstrips onto white screens in academic and corporate classrooms, conventional learning has mingled with the services of technology. And as technology drives delivery, on-the-spot learning has been redefined, where time and space take a backseat to access.

By today's measure, blended learning is, of course, more than a mixture of celluloid, textbooks and an instructor's lectures. Delivery methods that include desktops, CD-ROM software and the media-rich pipelines of the Internet have made learning an around-the-clock, self-paced proposition.

Marc Rosenberg, principal at DiamondCluster International in Chicago, and author of *E-Learning: Strategies for Delivering Knowledge in the Digital Age* (McGraw-Hill, 2001), says that while blended learning

After two years of evaluation, the Thomson study concluded that SBEs clearly gave learners an advantage over online instruction alone.

is most often thought of as a marriage between classroom and computer-based instruction, the union dissolves when a company or academic institution fails to get the mixture right. "The question is not if we should blend," he says. "Rather, the question is what are the ingredients?"

Typically, when most people hear "blended learning," they immediately think technology + classroom = blended. Rosenberg would argue, however, that e-learning courses can be blended unto themselves. In fact, myriad e-learning curricula have been developed blending self-study modules with synchronous activities, and good old fashioned reading—all of which creates a blended approach. Classroom-based or instructor-led programs, meanwhile, also can blend several approaches: action learning, lectures, workbooks, games, and the like.

Regardless of which definition you use, data, both structured and anecdotal, are trickling to the fore and making a strong argument for the blended approach. The first in a series of planned reports on the effectiveness of blended learning has been released by Naperville, Ill.-based Thomson Learning Co., parent of e-learning company NETg. Launched in 1999, the initial research, "Thomson Job Impact Study: The Next Generation of Corporate Learning," examined all organizational levels in retail, aerospace, manufacturing and academia. It was conducted in collaboration with Lockheed-Martin; NCR Corp.; Utah State University; University of Limerick, Ireland; Anoka-Ramsey Community College, Minnesota; Executive Service Corps of Chicago; and KnowledgePool.

The Ingredients

The study focused on teaching elements of Microsoft Excel to three different groups of people in order to measure on-the-job productivity differences stemming from chosen delivery methods—a blended approach and an e-learning only approach. Group One was offered five Excel scenario-based exercises (SBEs) that provided a realistic business situation—outlined for the learners to attempt by using the "live" Excel application—that could be applied to real-world tasks.

Arranged in ascending order of difficulty, each scenario consisted of a set of data and an example of the final outcome. While working on the scenarios, this group had access to supporting materials such as the NETg Excel Fundamentals Learning Objects, online mentors—during and after training—FAQS and relevant Web sites.

Group Two completed a standard NETg E-Learning Excel Fundamentals course, with no SBEs. The learning objects assigned to the course, however, were the same that were used to create the SBEs for Group One. In other words, both forms of training encompassed the same Excel objectives, learning activities and post-assessment items.

Like Group One, Group Two had the option of consulting with an online mentor during the training and for the three months post-training. Group Two also could review FAQS, pertinent Web sites, and book links to support the learning events. Group Three received no training and served as a control group to benchmark on-the-job performance.

The Results

After two years of evaluation, the Thomson study concluded that SBES clearly gave learners an advantage over online instruction alone. Group One (the blended group) showed a 30 percent increase in accuracy of performance over Group Two (the e-learning only group), and demonstrated 159 percent more accuracy than the untrained control group. (Group Two outperformed the control group by 99 percent.) In addition, the blended group completed real-world tasks 41 percent faster than the e-learning group, which, again, demonstrates how the SBES enhanced the learners understanding of procedural knowledge.

The study also found that having access to mentors within the online instruction was essential to the success of both groups, but particularly to the SBE participants in Group One. "The SBE participants took advantage of the available mentors more," according to the study. "This is very likely because they were working with open-ended problems that challenged their ability to apply what they were learning, not just recalling feature names. They also allowed more opportunities for errors requiring assistance."

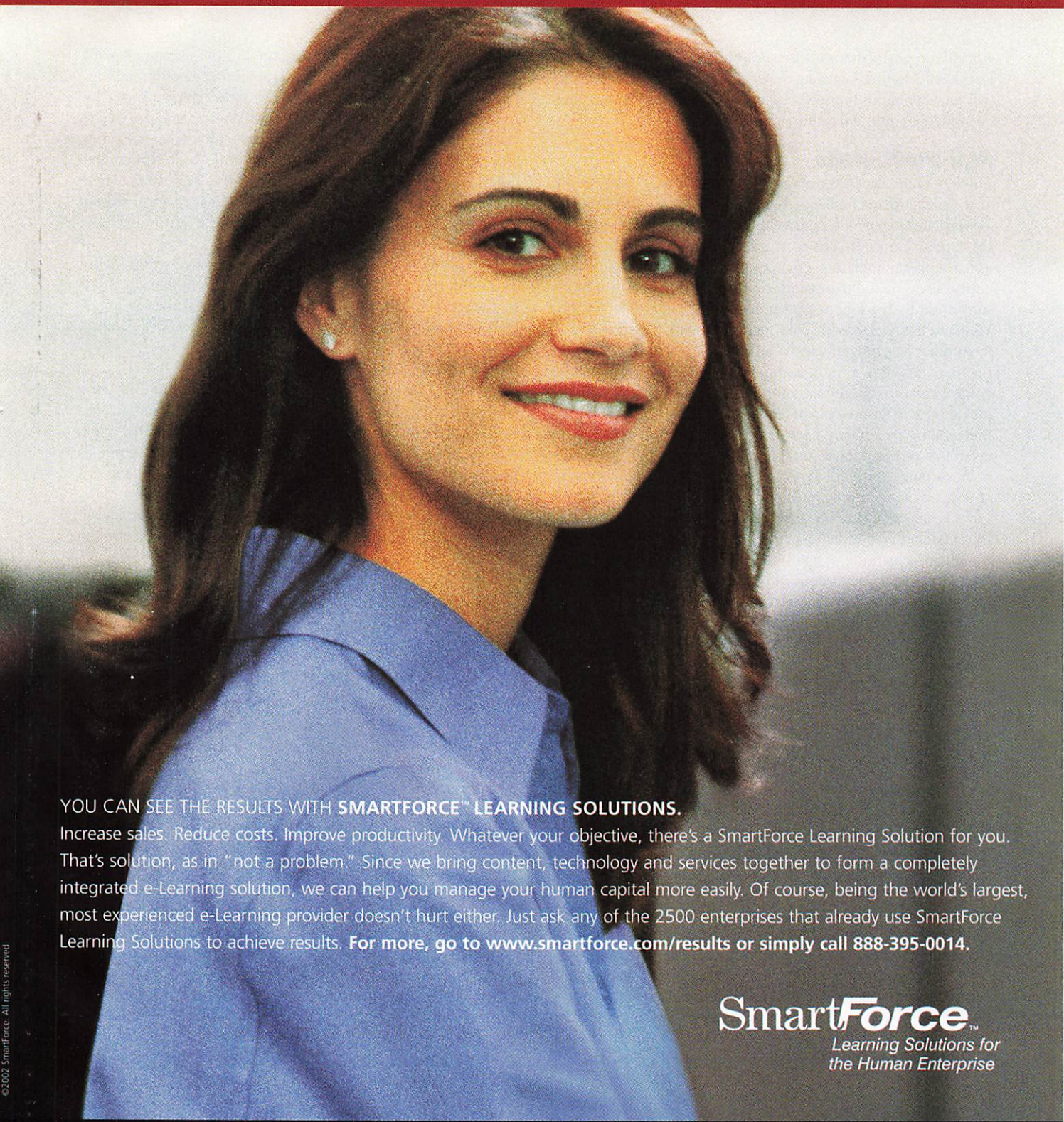
Aside from the notable results, what is most significant about the Thomson study was its broad strokes. For one, it sought to determine performance differences on real-world application, which is a keen, practical measure of training retention.

Assessment also played a salient role in the study, which included Kirkpatrick Level III appraisal and due diligence to instructional design theory and models. As the study points out, learners face a complex problem when learning how to use software: "The software problem can become increasingly complex," the study concludes, "and the general nature of the business problem is held constant at a simple, common level of understanding."

In the wake of the study, Lockheed Martin became a blended learning convert. "We have been experimenting with blended learning, intuitively thinking it would support increased

Her latté didn't taste better this morning.
The commute wasn't any lighter.
And no, she didn't get a raise.

SHE JUST SAVED THE COMPANY A MILLION BUCKS, THAT'S ALL.



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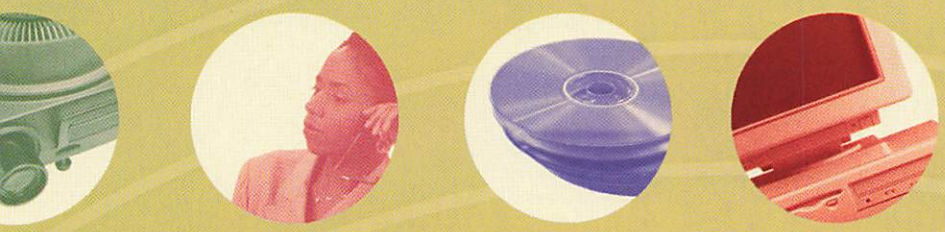

workplace performance," says Candice Phelan, director of Lockheed Martin's Learning Services. "Having the study results will now enable us to move out confidently, basing our actions on stringent empirical results."

Real-World Blends

Another Thomson survey participant, NCR Corp., Dayton Ohio, continues to expand its blended learning on a more formal basis in segments that include sales and technology and project management. E-Learning Concepts, one of its earlier blended adoptions, trains its learning staff to design appropriate programs for e-learning. A course is delivered using a number of instructional methods supported by reading assignments, including articles on the Web and live Web-based "sync" points for team exercises.

Another NCR program deals with tackling a high-tech solution that uses field-guide binders shipped to students, a Web site to guide them through their assignments, a live Web presence that provides feedback on case studies, including a live Web "kick off" that sets the collaborative tone for the course, and a classroom event that provides hands-on role-playing.

According to Herb Bivens, director of e-learning development at NCR, all blended programs have had some type of Kirkpatrick Level I evaluation and include Level II testing of student learning. Level III and IV evaluations, however, are in the works. "So far, the blended learning program undergoing Level III assessment has shown that 71 percent of the learners responding were much more effective discussing the particular technology solution with their customers," says Bivens.

Clearly, companies are realizing that an effective blended approach is all-inclusive. Over the past two years, Cincinnati-based Convergys has sought to bring performance management, leadership development, succession planning and all employee trainee programs under its organizational development umbrella. To lasso in these components and migrate from instructor-led training, the global integrated billing and customer-care service provider implemented a broad-based LMS from KnowledgePlanet that includes three e-learning libraries and virtual classroom tools that allow for interactive distance learning to its 50 locations in North America as well as locations in Europe.

Tim Huiting, director of organizational development for Convergys, says instructor-led training is no longer a feasible means to reach its scattered locations, particularly in management training. "My mantra is more programs to more people more often when they need them," says Huiting. "Even with some of the soft-skill stuff like time management and business-writing skills, most of the Web-based stuff is at a sufficient level where, yeah, maybe it's not as good as an instructor, but an instructor is not as good as a personal tutor. So at some point you have to ask: Is this sufficient to do what we need to do?"

Convergys' New Manager Program illustrates Huiting's point. All newly promoted managers receive an initial combination of reading and job aids, such as checklists for what to cover at their first staff meeting; five off-the-shelf Web-based courses in management fundamentals, provided by SkillSoft, an e-learning and performance-tools provider in Nashua, N.H.; interactive distance learning via virtual classrooms from LearnLink, where new recruits converse with experienced managers from around the country; and a four-day instructor-led seminar at the company's headquarters in Cincinnati.

"Before this program, we would have managers working for six months before they were ever able to travel to headquarters for the seminar," Huiting says. "Now things can happen immediately upon their promotion, interactively."

A Potent Combination

Before USA Group was acquired by Sallie Mae in 2000, the student loan provider had an evolved blended program called LEAD (Leadership Education and Development). Originally developed to groom internal staff to fill supervisory-level positions and reduce reliance on outside hiring, LEAD grew to serve as a retention tool and fill the internal leadership talent pool.

Participants of LEAD spent four hours per week in a classroom together, as internal and external instructors taught subjects such as building trusting relationships, the role of managers in managing organizational change, leading with integrity and operational business skills. As a prelude to the classroom, students completed three online management courses from SkillSoft to help build a shared understanding of key concepts addressed later by the facilitators.

In addition, students completed a series of six online courses in project management that included a panel presentation by members of the IT Project Office Team to illustrate how projects are handled within the company's culture. Elaine Voci, USA's director of learning and development at the time and currently director of corporate e-learning strategies at SkillSoft, says the blended approach provided a major reduction in costs.

The alternative to online project management classes, says Voci, was classroom instruction led by faculty at a local technical school. Six-week segments, offered twice a year, were projected at $40,000 per segment, not including materials. Because the company sought a tailored solution, it would have sustained all of the development costs before a single course was in place.

"The effect of these combined online learning experiences with stand-up instruction was potent," Voci says. "Participants praised the curriculum in final program evaluations, citing the sense of heightened teamwork and camaraderie. The blended learning approach helped create a shared understanding of concepts important to the learning culture and provided oppor-

> Blended learning is more than a transition from traditional learning methods to technical solutions. It's a cultural shift and an organizational blend that continues to find its legs among the educators, implementers and employees who are learning as they go.

tunities to reinforce them in a live classroom setting. The approach respects learner differences in style, yet provides the much-needed social interaction that people seek and enjoy."

The Full-Bodied Blend

In the spring of 1999, Procter & Gamble turned to a blended approach to change the face of learning at the product manufacturing giant, where some 20,000 employees enter training programs each year. At that time, more than 95 percent of training was classroom-based. All learning was in autonomous silos, and redundancy was undermining the company's needs. With 27 business segments and more than 100,000 employees globally scattered, the company endeavored to eventually make at least 50 percent of its training Web-enabled.

First and foremost, P&G needed a fresh LMS to serve as the foundation for its training needs and to create a launching pad for its Web-based and blended content. The company implemented an LMS from Saba Software, Redwood Shores, Calif., in August 2000, along with Centra Symposium's live-distance learning tool. P&G used Macromedia's Authorware for CD-ROM-based training, and then added CourseBuilder and Dreamweaver—all of which can serve as precursors to live classroom instruction. P&G's IT unit added its content in September 2000, and today the company has 1,200 learning items in its catalog, with 34 percent Web-based or live-distance and 54 percent via CD-ROM.

Conservative cost-savings estimates, based on P&G's at-hand experience in year one and what it expects in year two, are significant. "If we do just 25 percent of what our early adopters are doing, our savings will be great," says Art DiMartile, senior IT manager for global learning at P&G.

An early example of ROI falls under soft-skills training. P&G contracted with Global English to launch an English as a second language course from P&G's LMS that would reach the company's foreign employees. By reducing dependency on outside instructors, the company estimates a savings of $2.5 million per year on this one item alone.

Off-the-shelf courses on themes such as time management and managing for success are becoming mainstays in P&G's burgeoning blended approach. As the company continues to polish and bolster its infrastructure to improve usability from end users and allow for more robust media, it plans to explore both Web-based and off-the-shelf training as prerequisites to live distance learning and instructor-led classroom training.

"We're giving learning managers and trainers choices that they never had before, and it raises interesting questions," says DiMartile. "Given our learning objectives and needs, should we select Web-based live training, versus classroom, versus video-based, versus CBT, or some blended solution? There's no clear answer. It depends, on the resources you have, how far geographically you have to reach, or whether you can get your arm around them and pull them into a classroom."

Another significant concern for P&G, as it increasingly blends in technology, is user acceptance. With 100,000 employees to potentially train, being familiar with the new tools is crucial to success. "We're trying to do that with as much online training as possible and create a virtual staff that doesn't undermine our classroom instructors and traditional trainers who will be reeling from our paradigm shift," says DiMartile. "Our strategy is, let's create a critical mass of experiences and let that multiply as we go."

Which brings us back to the ingredients. Blended learning is more than a transition from traditional learning methods to technical solutions. It's a cultural shift and an organizational blend that continues to find its legs among the educators, implementers and employees who are learning as they go. "A course is a course, is a course," says Marc Rosenberg. "There's a whole field of knowledge management and performance support at work that are not instructional in nature. Blend all you want, but there are more than two ingredients. Who's to say learning objects need to be instructional in nature? Why can't they be Web sites, white papers, streaming media of an interview, a community where people collaborate online? The assumption is this needs to get blended into something called a course."

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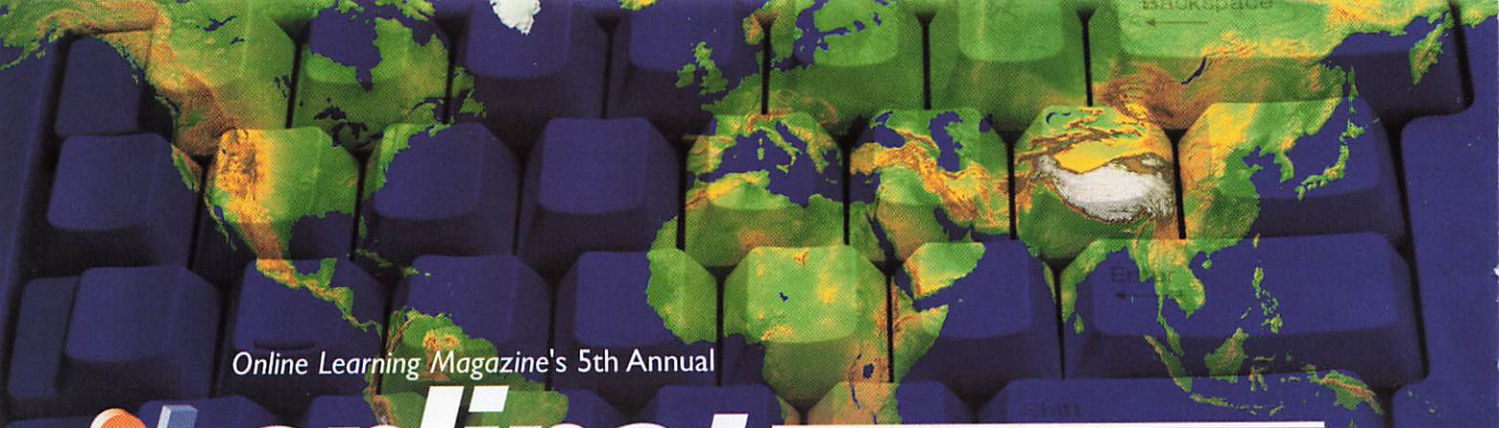

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Although we revel in the creative use of our products, the ultimate purpose of the eLearning Innovation Awards Program is to honor the developers and instructional authors of original, high-quality e-learning applications. We encourage you to look at what these instructional developers have created and apply it within your own organizations.

We also invite you to submit your best-in-class work for our next round of awards. You'll find complete details at the URL noted above.

Congratulations to the recent winners! And best of luck to you all.

Pat Brogan, Ph.D.
Vice President of Learning
Macromedia

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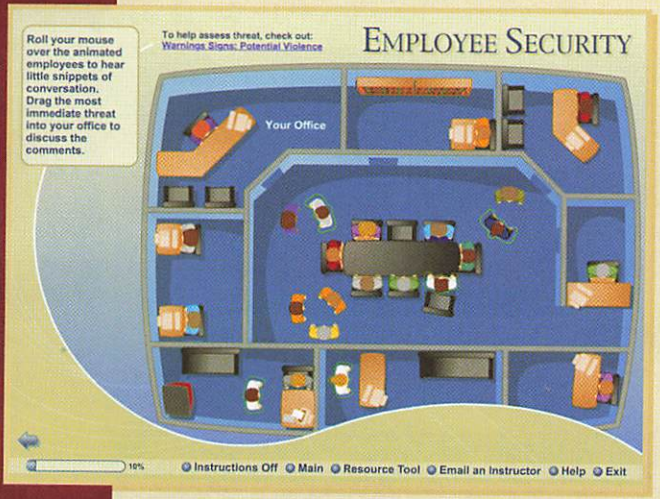
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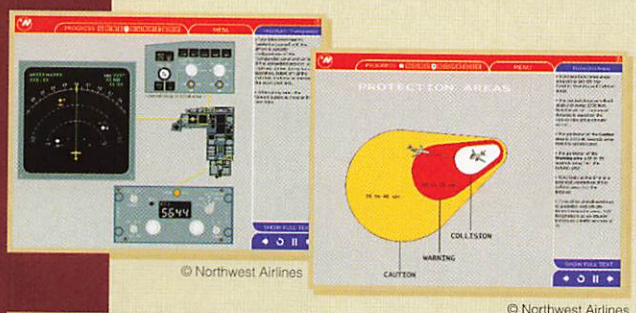

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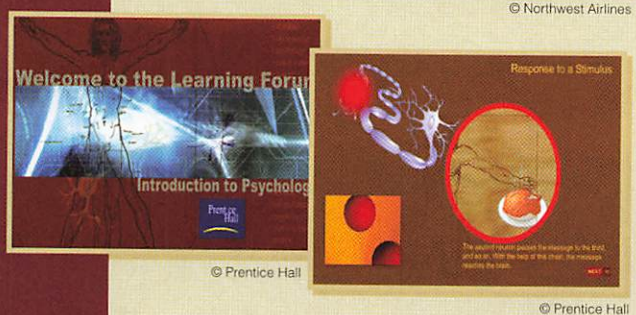

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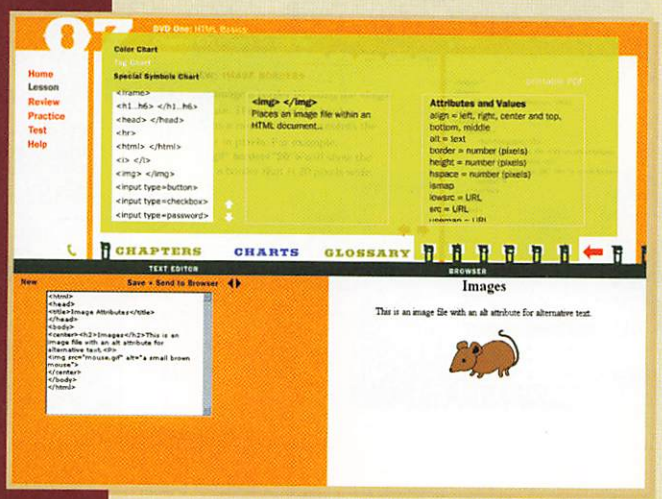


© Bay Area Video Coalition

WINNER: Best Corporate/Government Training Application
Corning Supervisor Effectiveness Training

Designer: Allen Interactions for Corning Incorporated

Development Tool(s): Macromedia Flash

Description: Six-hour e-learning course provided to supervisors at Corning as a prerequisite for a three-and-a-half-day, instructor-led skills and application course.

Design Objectives: Replace a previous three-day classroom experience while providing supervisors with effective management tools, including information on relevant policies, laws, people skills and business process training.

Judges' Comments: This program guides users through a minefield of management issues, such as substance abuse and balancing work and family, and evaluates if users respond appropriately. The graphic design and content is most captivating, and the movie manages to be as fun as a game without trivializing serious topics. The detailed instructions are especially comprehensive, with information that guides users along every step, a guided tour, context-sensitive instructions, a Help system, and a direct connection to the instructor.

Corning Supervisor Effectiveness has an intuitive design that encourages learners to explore policies from the perspective of different types of cases. Using actual investigations of different employee issues enables students to learn policies, laws and people skills while they're doing real-world work. Particularly clever was how students must determine from a group of employees who the problem employee is.

This is an excellent use of computer media for soft skills. It encourages the development of skills through scenarios, by allowing consequences to build realistically. The consequences of learner actions build up over time as they do in life. Hints are available, but there is no forced path, so deeper thinking and learning are fostered. Allen Interactions successfully uses a blended solution to pair a Macromedia Flash movie with instructor-led training.

Honorable Mention: Technical Achievement
Northwest Airlines Traffic Collision Avoidance System (TCAS)
Development Tool(s): Macromedia Flash

Honorable Mention: Instructional Design
Introduction to Neurons, developed by Mentorix for Prentice-Hall Online
Development Tool(s): Macromedia Flash, FreeHand and Fireworks

WINNER: Best Educational Course (tie)
Bay Area Video Coalition (BAVC) Interactive Learning Series

Designer: Bay Area Video Coalition

Development Tool(s): Macromedia Flash, Dreamweaver

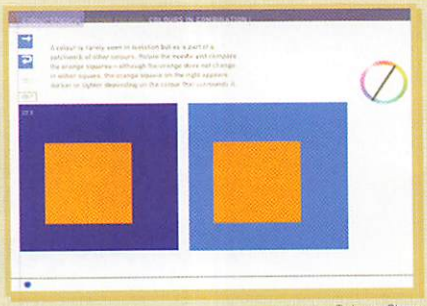
Description: Comprised of both interactive video and interactive components for developing basic HTML skills. The DVD portion contains Macromedia Flash-based narrative lessons with text and voice instructions, and a Javascript text editor to allow students to work along with the lessons. Extensive exercises, tests and reviews are also provided.

Design Objectives: Provide an energetic and thought-provoking learning environment for students who want to move into high-tech jobs, but may not have a great deal of background in technology – indeed, may not even be familiar with using a computer. (San Francisco-based BAVC is the nation's largest noncommercial media arts center dedicated to

providing access to media, education and technology. As a production facility, an affordable training center, a pioneer in technology-based workforce development, and a critical resource for independent media-makers, it provides access to new technologies in all aspects of media production.)

Judges' Comments: Bay Area Video Coalition created a learning environment that is highly interactive and extremely flexible. The way students can see how their HTML code would look in a browser as they create is very effective. It also has a design that is hip and fun, reflecting the young-adult population it targets. The video portraits of designers and developers help learners see what the people and jobs are like in the target careers.

A clean comprehensive design that incorporates audio and takes into consideration the variety of ways in which people learn. We can't think of a better way to present HTML instruction. Having immediate visual feedback in a WYSIWYG window drastically reduces the frustration level for users. This application is very well conceived and executed.



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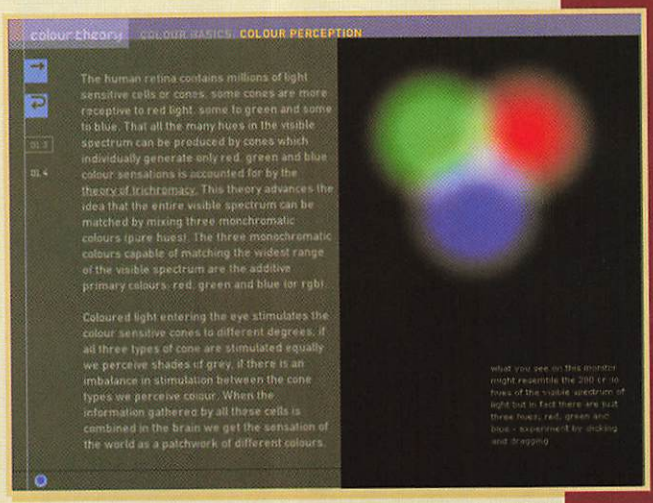
colour theory
COLOUR BASICS: COLOUR PERCEPTION
The human retina contains millions of light sensitive cells or cones, some cones are more receptive to red light, some to green and some to blue. That all the many hues in the visible spectrum can be produced by cones which individually generate only red, green and blue colour sensations is accounted for by the theory of trichromacy. This theory advances the idea that the entire visible spectrum can be matched by mixing three monchromatic colours (pure hues). The three monochromatic colours capable of matching the widest range of the visible spectrum are the additive primary colours: red, green and blue (or rgb).
Coloured light entering the eye stimulates the colour sensitive cones to different degrees; if all three types of cone are stimulated equally we perceive shades of grey, if there is an imbalance in stimulation between the cone types we perceive colour. When the information gathered by all these cells is combined in the brain we get the sensation of the world as a patchwork of different colours.

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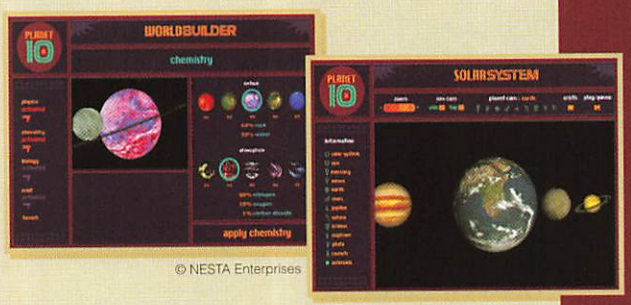

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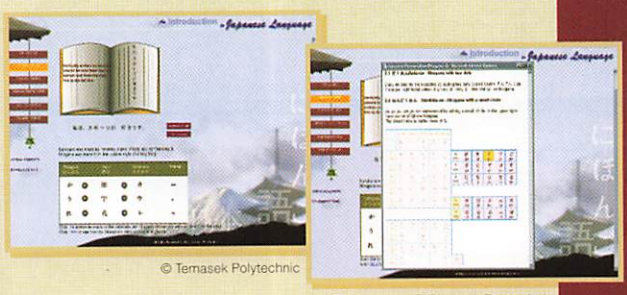

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WINNER: Best Educational Course (tie)
Basic Colour Theory

Designer: Phil Jones for Design Pedagogy

Development Tool(s): Macromedia Director Shockwave Studio, Fireworks

Description: This course – one module in an expanding suite of elementary-level courses – deploys a variety of interactive simulations intended to introduce basic color theory to undergraduate design students. Companion modules cover such subjects as design principles for print, design principles for screen, and an introduction to typography; intermediate and advanced courses expand into more challenging areas, such as "word and image" and "narrative and sequencing."

Design Objectives: A service site for a membership consortium based in Wallington, Surrey (United Kingdom), Design Pedagogy seeks to promote the application of theory in the education and practice of graphic design by providing interactive learning resources that promote basic as well as more advanced theory in practice. The Colour Theory Basics module is designed in such a way that it can be used on an individual basis or projected in a lecture or seminar setting. To encourage experimentation, all of the images it contains are interactive in some way.

Judges' Comments: Colour Theory Basics provides a terrific interactive way to learn about color. Students can explore and experiment with different color concepts, and see the color effects instantly. This beautiful piece reminds us of a high-quality coffee-table book, but it does what a printed book never could. Great use of the online medium, and visually stunning.

The screen design is elegant and ingenious. It is a visual pleasure to the learner each time a new concept is present. What a great way for design students to learn design and learn about design simultaneously.

Honorable Mention: Technical Achievement
Planet 10: Interactive Solar System, Telepathy Interactive Media
Development Tool(s): Macromedia Director Shockwave Studio, Macromedia Flash

Honorable Mention: Instructional Design
Introduction to Japanese Language, Temasek Polytechnic
Development Tool(s): Macromedia Director Shockwave Studio, Macromedia Flash, Dreamweaver

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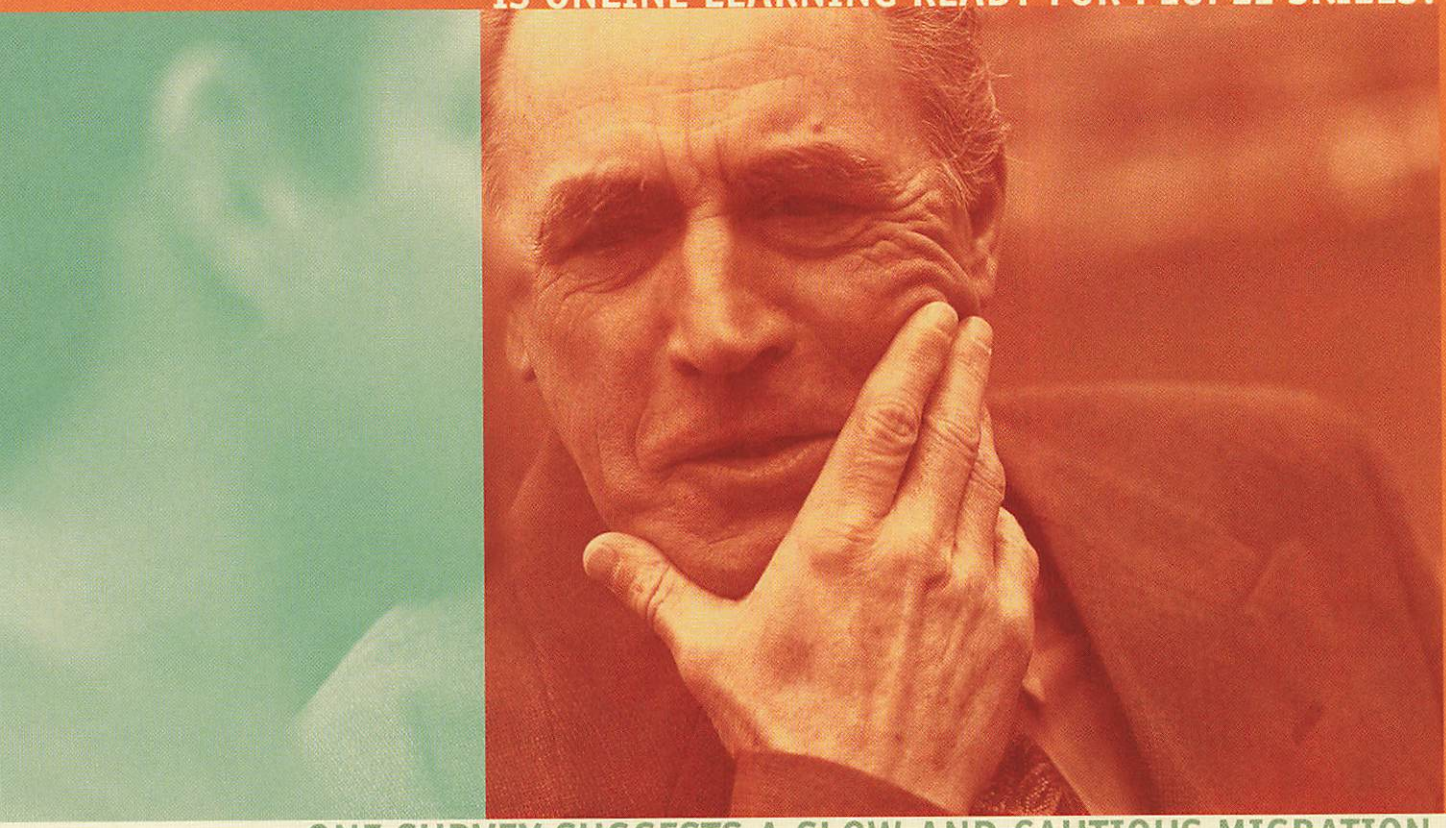
Going Soft

SOFT SKILLS TRAINING begins at birth. Along with heredity, our surroundings have an immediate and enduring impact on our feelings, values, enthusiasms, motivations and attitudes. And as our personalities evolve, we accumulate the social graces that equip us to contend with society. Through these people skills, we learn the value of reliability, promptness, tact, perception and candidness. In the workplace, such traits translate to team players, skilled leaders and planners, savvy customer servants and consistent performers. You might say that to become sufficiently soft-skilled on the job is to pursue the craft of the professional—at least enough to earn that promotion.

IS ONLINE LEARNING READY FOR PEOPLE SKILLS?

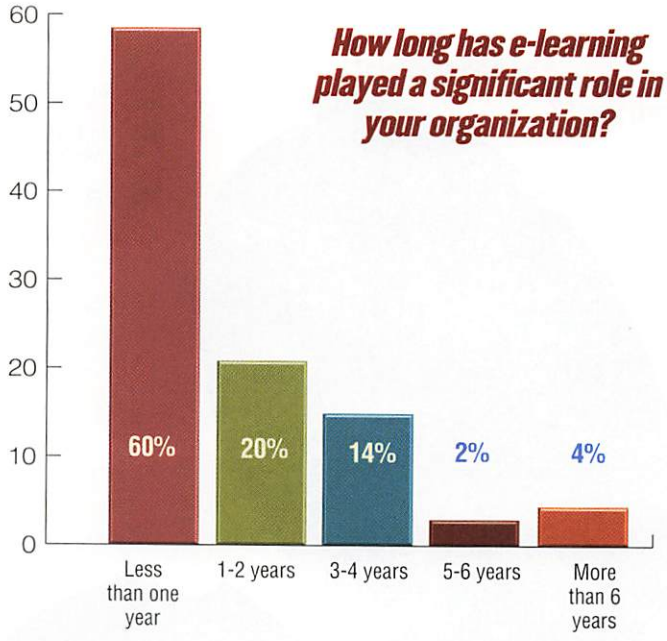


ONE SURVEY SUGGESTS A SLOW AND CAUTIOUS MIGRATION.

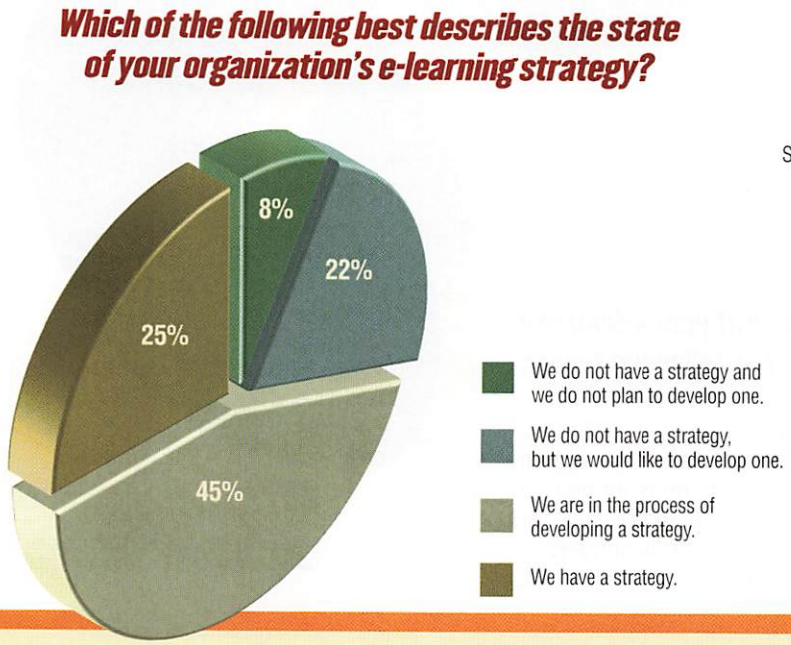
BY JEFF BARBIAN

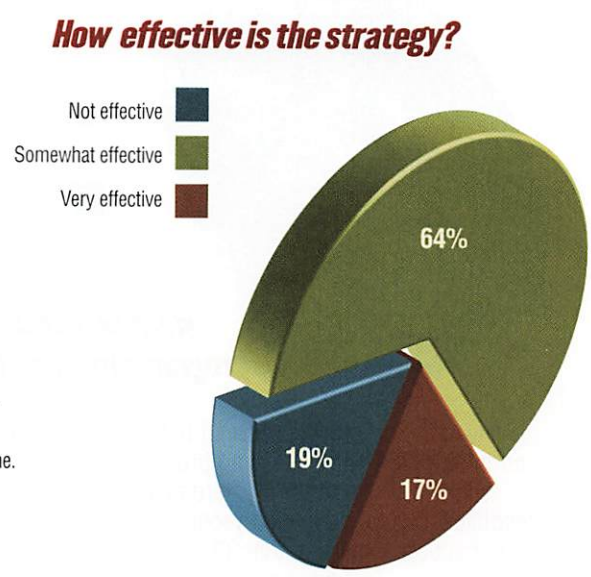
Until recently, the logical forum for soft skills training has been the classroom. With interpersonal skills, the gap between conceptual understanding and actual performance is significant, and is often most effectively addressed face-to-face through mentors, coaches or instructors. Increasingly, however, organizations are transferring soft skills training into their e-learning systems. But with learners flying solo in face-to-monitor—rather than face-to-face—training, is something getting lost in the translation?

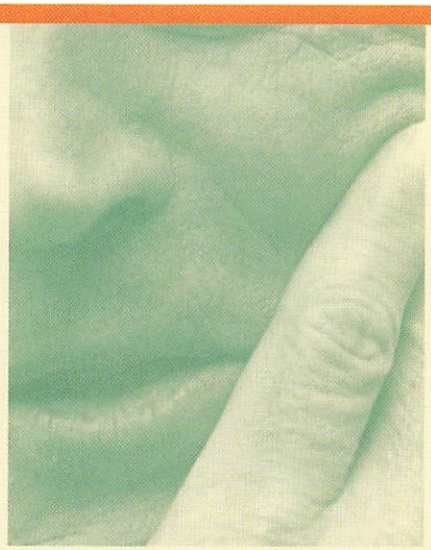
Godfrey Parkin, president of MindRise, a Washington D.C.-based online educational services company, says that some soft skills lend themselves to e-learning more than others. Marketing, strategy, administration and managerial skills, he says, are good candidates for e-learning. "Courses may cycle through such steps as presenting and applying concepts, offering examples, testing understanding and providing performance feedback," says Parkin. "Much of the conceptual knowledge or theory can be handled online more effectively than in a classroom."



Clearly, the bulk of the companies surveyed are rookies when it comes to using online learning for soft skills development. A full 80 percent have only had a significant investment in e-learning strategies for two years or less, with 60 percent for less than one year. Merely 6 percent of the companies have persevered with e-learning for five years or more. While 8 percent of the companies we tracked said they have no e-learning strategy and no plans to develop one, 70 percent are either in the process of developing one or have one in place. However, only 17 percent feel their program is very effective, suggesting the trial-and-error nature of the e-learning discipline for soft skills.


Which of the following best describes the state of your organization's e-learning strategy?
8%
22%
25%
45%
We do not have a strategy and we do not plan to develop one.
We do not have a strategy, but we would like to develop one.
We are in the process of developing a strategy.
We have a strategy.





Yet, practicing those soft skills in a role-play or mentored environment, warns Parkin, can be an e-learning challenge. But online prep work can do wonders to prepare employees for classroom instruction.

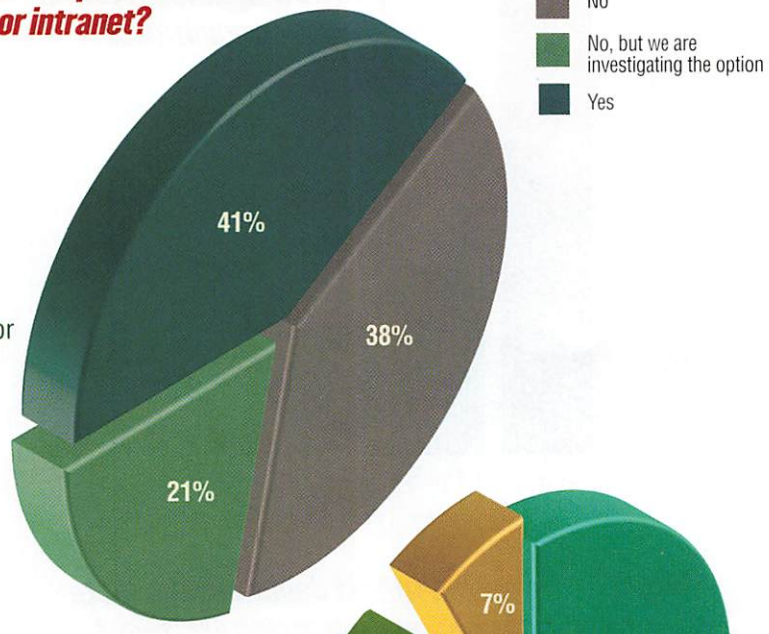
In other words, offline and online methods should compliment each other with a blended approach, or as Parkin calls it, "a common sense use of available media."

"Online media can and should be used for what it does best: connecting people to shared experiences to benefit from collective knowledge," Parkin says. "If you don't leverage the power of the Web to create decentralized perpetual learning communities, you might as well be shipping out CD-ROMs, condemning people to the once ubiquitous loneliness of the long-distance learner."

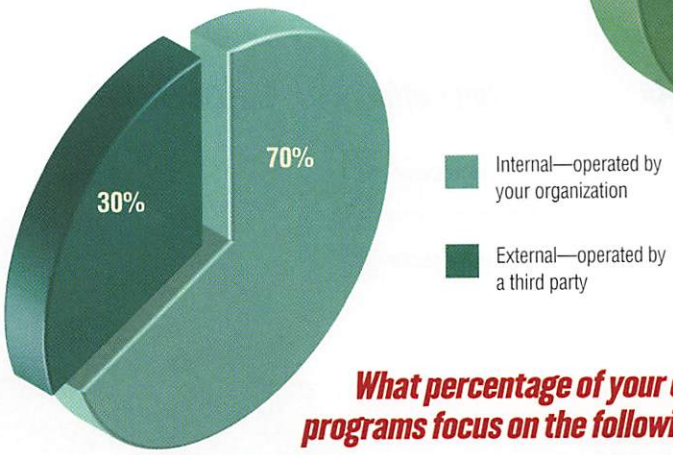
Richard Wellins, senior vice president of Development Dimensions International (DDI), agrees that you can significantly contribute to a learner's grasp of soft skills by networking the experiences of other learners. But companies going full-steam into e-learning shouldn't

Does your organization offer a "learning portal"—a public or commercial site accessed from a browser on the Internet or intranet?

Similar to a software-based learning management system, a learning portal acts as the virtual headquarters of e-learning instruction. It serves as a centralized database for a company's employees to access courses, archived materials and other Web-based learning assets. Of the organizations tracked in this survey, 41 percent offer a learning portal, with another 21 percent considering the option. Also like LMSs, learning portals are alive and kicking in the vendor community: Of those respondents with a portal, 30 percent outsource the operation to a third party.

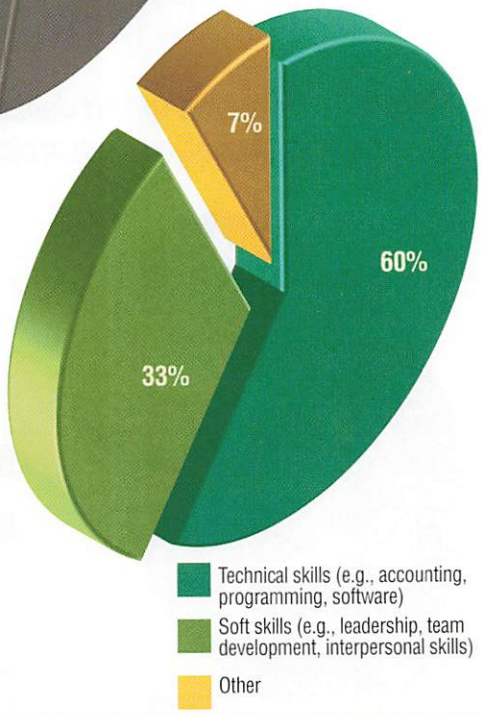


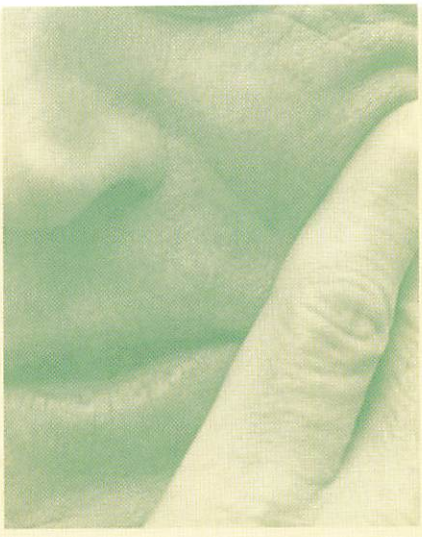
If yes, is this learning portal:



What percentage of your e-learning programs focus on the following topics:

Given the empirical nature of hard skills, it's not surprising that of those companies with an e-learning program, 60 percent center their training on technical skills. After all, hard skills lend themselves to more immediate feedback, can be readily corrected, and don't require a human presence for interaction. However, that 33 percent do implement soft skills suggests a growing comfort zone with interpersonal training online.





underrate—or phase out—the impact of human interaction. "The perceived effectiveness of e-learning to build soft skills is pretty poor," says Wellins. "This is not surprising due to the fact that many organizations are buying large libraries with cost, rather than quality, as the main driver. Many of these courses are not really blended, allowing little or no opportunity for practice with real people. While e-learning can be a tremendous enabler, people will not dramatically improve their interpersonal/leadership skills sitting in front of the computer alone."

DDI, a Pittsburgh-based global human resource consulting company specializing in leadership and selection, recently completed a survey of e-learning practices for soft skills. Cosponsored by *Online Learning Magazine*, the survey represents the responses of 139 organizations in 15 countries (56 percent are U. S. companies). About 50 percent

(Continued on page 42)

Learning Management from A — to — Z

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01 ○ Sales/Marketing – VP; Director; Mgr and other sales/marketing titles
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03 ○ General/Corporate/Administrative Management – President; CEO; COO; VP; Executive Director and other corporate management titles
04 ○ Financial Management – CFO; VP; Controller and other financial management titles
05 ○ IT Training – VP; Dir; Mgr/IT Trainer and other IT Training titles
06 ○ Training/Human Resources/Administration – VP; Dir; Mgr; CLO; Trainer and other training/HR/Admin titles
07 ○ Instructional/Content/Web Designer or Developer
08 ○ Education – Professor; Dean; Instructor; Administrator and other education titles
09 ○ Consultant/Integrator/Project Manager
10 ○ Engineering/R&D
99 ○ Other (please specify) _____

2 What is the primary business of your organization?

01 ○ Manufacturer of Computers, Communication or Peripheral Equipment
02 ○ Manufacturer of other products (non-computer related)
03 ○ Professional/Business Services: Finance, Banking, Accounting, Insurance, Real Estate, Legal Services
04 ○ Contract Employee/Consultant
05 ○ Healthcare/Pharmaceuticals/Medical Services
06 ○ Universities, Colleges, Technical Schools
07 ○ K – 12 Education
08 ○ Government/Military
09 ○ Retailer/Wholesaler/Distributor
10 ○ Communication Carriers
11 ○ Internet Service Provider
12 ○ VAR/VAD, Systems or Network Integrator, Commercial Training Center
13 ○ Publishing/Content Provider/Advertising/Media/PR
14 ○ Utilities/Transportation
15 ○ Hospitality: Food & Lodging

3 What is the total number of employees in your entire organization?

01 ○ 10,000+ 02 ○ 5,000–9,999 03 ○ 1,000–4,999 04 ○ 500–999
05 ○ 250–499 06 ○ 100–249 07 ○ 50–99 08 ○ Under 50

4 Are you involved in the purchase, creation or management of e-learning and training for your company?

○ Yes ○ No

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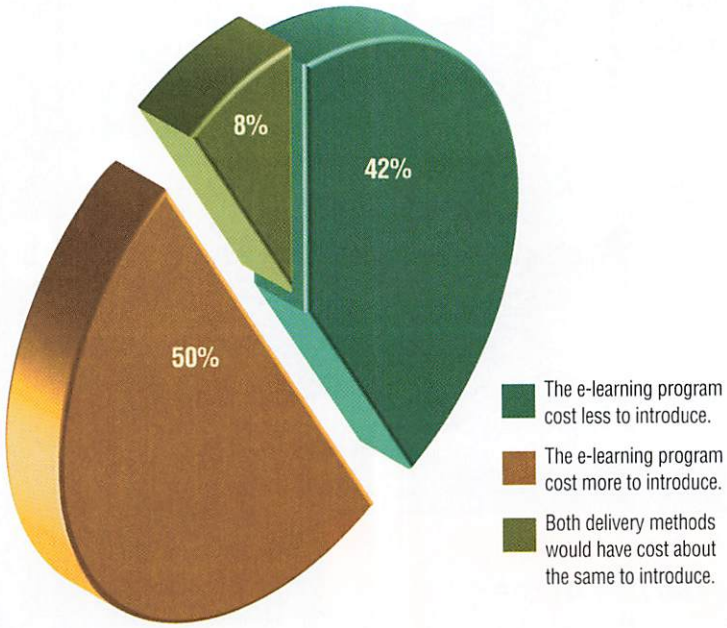
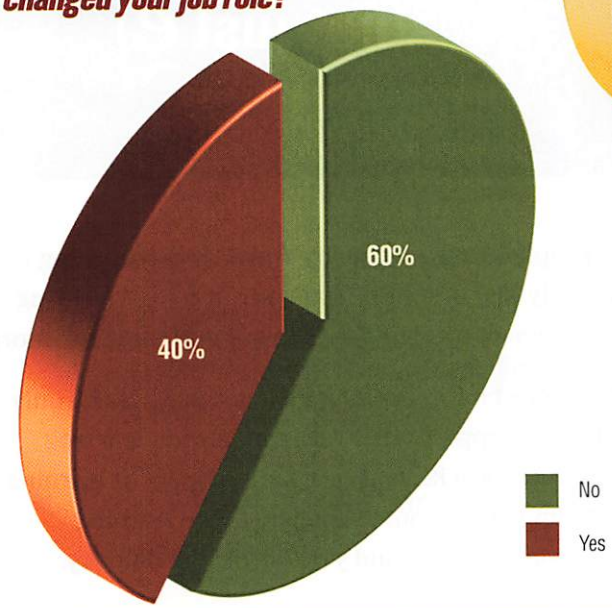
Think about a soft skills e-learning program that your organization introduced at least one year ago. Estimate the initial implementation costs of the e-learning compared to a similiar program that does not involve e-learning:

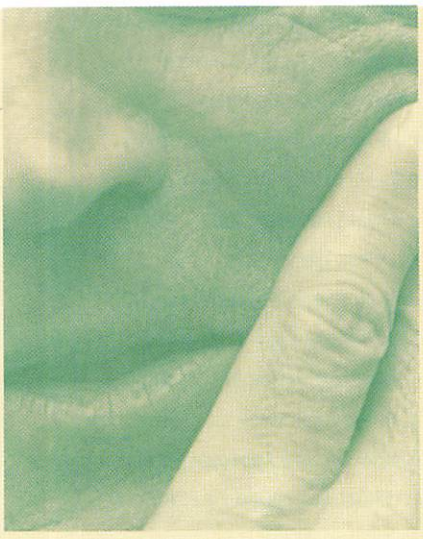
Despite the misgivings many organizations feel toward the investment required to execute a soft skills e-learning program, such an investment proved less expensive than noncomputer-based courses for a considerable amount of respondents. We asked organizations to compare the delivery costs of a traditional soft skills learning program vs. an e-learning program that they've developed in the past year, and 42 percent said the e-learning cost less to introduce. Half, however, paid more for the e-learning course.


8%
42%
50%
The e-learning program cost less to introduce.
The e-learning program cost more to introduce.
Both delivery methods would have cost about the same to introduce.

Has the growth of e-learning changed your job role?



Naturally, traditional classroom instructors and workplace trainers tend to feel apprehensive about courses of instruction that employees can take right at their desktops. It's the sort of corporate culture shift that can redefine the roles of many in training and HR departments. Yet, while 40 percent of respondents said that e-learning has changed their job roles, 60 percent said the adjustment has kept their roles intact.



of the responding companies have less than 400 employees, and 53 percent are public organizations.

On a scale of one to 10, survey respondents rate their overall use of e-learning at 3.9. Evidently the growing pains will continue as organizations address budget and e-learning infrastructure issues, as well as learner acceptance and finding the right online coursework.

"E-learning still is in it's infancy, especially when it comes to soft skills/leadership training," says Wellins. "The good news is that organizations are expecting a big increase. In 2001, about 15 percent of all soft skills learning was Web-based. This number is expected to double by 2003."

Jeff Barbian is a senior editor of Online Learning Magazine. *editor@onlinelearningmag.com*

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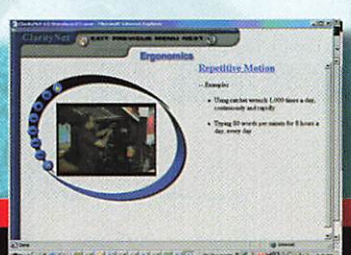

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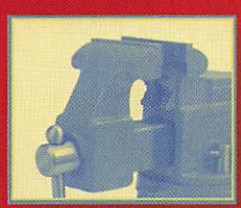


HERE'S HOW ONE DIVISION OF RAYTHEON FIRED ITS LMS VENDOR, BUILT ITS OWN LMS AND SAVED $250,000 IN THE PROCESS.

MOST PEOPLE WHO remodel their own bathroom or install their own ceiling fan don't assume they'll do a better job than the contractor. On the contrary, most do-it-yourselfers roll up their sleeves and buckle their tool belts simply because they want to save a few dollars—even if the work suffers. But when Jon Cartier's team decided to tackle its own e-learning project, they not only saved their company a quarter million dollars, but they also created a just-in-time e-learning library that made their learners cheer and put their help desk to sleep.

The Challenge

The team faced a relatively common situation. Raytheon, a defense and aerospace systems supplier in Lexington, Mass., used SAP as the enterprise-level resource software and was preparing for a long overdue upgrade, skipping several revisions going from 3.1 to 4.6. Cartier was the manager of knowledge management and communications for a group charged with delivering the training necessary to prepare nearly 2,000 users for the upgrade.

But SAP is no ordinary piece of software. When a company upgrades Microsoft Word or an e-mail program, it only affects certain users doing specific tasks. SAP software at Raytheon was tied into many different parts of the organization. What users did in order-processing or operations also changed the data in the scheduling system and the parts inventory modules. The upgrade was the equivalent of trying to remodel a kitchen while throwing a lavish dinner party. Upgrading the SAP software would alter the way nearly everyone in the company worked.

Cartier's group had plenty of experience supporting an upgrade of this kind. They had been providing instructor-led training to the SAP users in the company over the last year. Their efforts, however, weren't making anyone happy.

"Everyone complained about the training," Cartier says. "The business-unit managers complained about their people being gone so much. The students complained that they didn't have enough hands-on time and couldn't practice what we taught in the classes. The instructors hated all the travel and complained that there wasn't enough time to give students what they needed. No one was happy."

The Online Appeal

Online learning was the logical answer. The Raytheon team wanted to deploy hands-on, highly interactive simulation training broken into knowledge objects that would allow users to get to the exact information they needed, learn it quickly and get back to their jobs. Even better, with online learning they knew the training would be available 24/7 and "just-in-time." It would provide customized hands-on simulations, electronic enrollment, testing and reporting, and greatly reduce the need for training travel, facilities and equipment.

In the beginning, Cartier's team envisioned delivering the training the old-fashioned way: hiring someone. They had a relation-

and Save

By John Hartnett

ship with a vendor that was eager to design and develop the training content for them, and then sell them a license to a well-known LMS to administer and track the training. But the vendor's gargantuan budget and broken promises killed the project.

"They promised us the LMS would do everything we needed, but the more we dove into it, the more we found out it wouldn't do this, it wouldn't do that," says Cartier. "It was just a glorified record-keeping system. Then they were going to charge us a setup fee of $30,000 per course *plus* another fee per user, per course. Their budget was more than double what we had spent on instructor-led training the previous year. Finally we just gave up."

Once the LMS was off the table, the rest of the vendor relationship soured to the point where Cartier had to find ways to deliver the training content himself.

Is There A Trainer In The House?

With literally no budget, Cartier went to work assembling his team. He would serve as general contractor, along with two dedicated full-timers who were SAP power-users with training backgrounds. Susan Payne coordinated the project and Stephanie Cregg took over as lead technical developer, though neither had much experience with Macromedia's Authorware, Cartier's development tool of choice. "I was actually in another division," says Cregg, "but I had taken an Authorware course so they pulled me over." Cartier even snatched an intern working in another department ("He once did an Authorware project in college," grinned Cartier), and scavenged a few dedicated part-timers who had previously worked on Lotus Notes training.

Cartier made one hire for the project. Randy Bean, a full-time Authorware consultant, joined the team with the stipulation that he would not develop the courses but teach the other team members how to program using Authorware. So with four full-time and seven part-time employees, Cartier and Payne laid out their 18-week production schedule.

Rather than rely on a lengthy design phase, the team took an empirical approach to the needs assessment. People had complained that there was too much to learn in one sitting. "They would go through it all step-by-step and then walk out of the classroom and wonder, 'What was that I just learned?'" says Payne. The team decided that the training should be delivered in bite-sized chunks that people could access and reaccess when they needed reminders, and then be able to immediately return to their work. There would be no more all-day marathon sessions.

The SAP experts sat down at a computer with the software upgrade installed and went through every procedure possible, documenting the changes from the older version of the software. They made a list of which jobs in the company would be affected by the change and finally added a "weight" for how important the change was to a person's job. They grouped the important tasks into logical modules and courses and thus had a complete needs assessment built from the ground up.

For usability testing with the intended audience, the team posted their proposed interface and typical interactions on the cafeteria bulletin board and invited critiques. Eighteen weeks later, the team delivered five training components:

1. **Role-based simulations providing the bulk of the training.** These were interactive software simulations developed in Authorware. Using this system, users could search by job function for specific software procedures that had changed.

2. **Audio walk-throughs.** The team wrote and recorded step-by-step narrated demonstrations of many major procedures for learners that preferred a "talk me through it" approach.

3. **Online quick reference system.** This system provided detailed explanations for all major procedures and organized them by job title. When a procedure in one part of the SAP software changes, it often affects users in many other parts of the system, usually without their knowledge. Keeping the training up-to-date was only half the battle. Trainers had to rely on users to check to see if any of their important procedures had changed. But Cartier's team created an online database of procedure scripts for tracking changes; now, whenever a script in the training library changes, it automatically notifies all employees who use the script in their jobs.

4. **Live training support.** The e-learning modules were supported by live, hands-on, instructor-led sandbox sessions.

THE SECRET OF THEIR SUCCESS

WHY DID THIS team succeed? Raytheon's Jon Cartier attributes their success to:

Content and learning objectives that were firmly rooted in weighted tasks. The team's instructional designers painstakingly catalogued every change in the two SAP versions, and then weighted each change's importance to different jobs. The training content was perfectly tailored to what people had to know to do their jobs—guaranteeing success.

Extensive communication up and down the chain. This team went out of its way to publish their plans and intent, both to their potential learners and more importantly, the managers in each of the business units. One example: The end-of-course surveys were given to students *and* their managers, allowing the LMS to track satisfaction from the learners as well as the people managing them. Another example: posting user interface diagrams in the hallways so employees could comment *before* the training was programmed.

Careful attention to measurable results. With a company philosophy already accustomed to measuring internal costs, plus an LMS tied into the main HR system, it was relatively easy to track the exact costs of development and compare them with the costs of delivering the training by traditional methods. Proving that your program saved the company $250,000 in actual costs (not productivity gains) puts a smile on any manager's face.

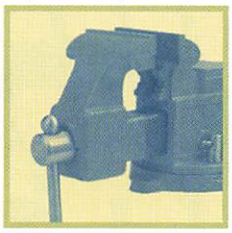
Modules supported by live, hands-on, instructor-led sandbox sessions. Learners could attend special learning labs and ask questions, try new techniques, and do more with the special coaching only a live session could provide.

Hiring smart people who care, rather than talented people who don't. It is much easier to teach smart, caring people to design and develop e-learning than it is to teach people with e-learning skills to care about your project.

Note: Earlier this year, Raytheon sold Cartier's training division to L3 Communications.

—J. H.

Learners could drop in to special learning labs to ask questions or try new techniques with the special coaching only a live instructor could provide.



5. An online enrollment and tracking system. Built in Authorware, this homemade LMS provided simple, reliable enrollment metrics and tracking. The system was tied directly to the main human resources database and was always up to date. It also meant learners only had to sign in once with their regular desktop user ID (no special user ID or password just for the training) to access any part of the training. The LMS automatically delivered accurate reports to key stakeholders and managers every week. It also gave highly detailed real-time access to enrollment data online so managers and learners could track progress.

By any measure, the training was a huge success. Lead technical developer Cregg says that within six weeks more than 4,000 courses had been taken by 1,400 students. And the training was so effective that "the help desk was bored during the upgrade," Cartier recalls. User satisfaction surveys were phenomenal (89 percent of learners said the training was either "good" or "very good"), as were the managers' surveys. The program was so well-received that the company's SAP consulting arm, PricewaterhouseCoopers, considered using the training with its other clients.

Project Costs

Vendor Budget: $390,000. This is the estimated budget amount the vendor would have charged for the LMS and developing the content for the 19 modules.

Cost of Instructor-Led Training in 2000: $388,000. This is the estimated costs of the salaries, facility rentals, materials, and travel costs to deliver instructor-led training on the same material in 2000. This does not include students' lost productivity time or any other indirect or intangible costs.

Do-It-Yourself Budget: $136,000. This is the estimated cost in salaries, equipment, and software costs to design and develop the training.

Total Savings vs. Instructor-Led Training: $252,000.

At the American SAP Users' Group Conference later that year, the audience was amazed that Raytheon's small team was able to produce such tremendous results. "The way that we did it was very cost effective and that got everyone's attention," says lead coordinator Payne. "No matter where you are or who you are, the more money you save your company, the more valuable you are to them," she says.

The do-it-yourselfers at Raytheon were able make a great piece of training themselves that put the help desk to sleep *and* saved the company a quarter million dollars—a feat comparable to delivering a Frank Lloyd Wright home for the price of a double-wide trailer.

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PRODUCT SHOOTOUT:

SOFTWARE SIMULATIONS

COMPARATIVE ANALYSIS OF E-LEARNING SOLUTIONS IN A "LIVE" SETTING.

MOST OFTEN, THE methods we use to evaluate e-learning products include watching product demonstrations, obtaining evaluation versions of the software and trying it for ourselves, and studying literature about the features and benefits of various solutions.

VNU Business Media, the parent company of *Online Learning* and *Training* magazines, added a new dimension to the evaluation process by holding "live" shootout events at our industry shows and conferences. The shootouts challenge e-learning vendors to creatively solve common e-learning issues facing many of you, our readers.

To add an element of excitement to the events, we asked vendors to create their solutions in real-time, in front of a live audience. The audience members—show attendees—not only observe proceedings, but they also play judge-and-jury, rating and then ranking vendors' performances.

The latest series of shootouts, co-hosted by brandon-hall.com and *Online Learning Magazine*, took place at the *Online Learning* Conference & Expo in two different locations: Los Angeles and London. Both events involved 15 vendor teams and about 1,000 observers. The challenge? Create application training by developing interactive software simulations.

Setup: Each team was given the objective of creating an e-learning-delivered, guided-practice simulation teaching a learner how to add someone's name to the address book inside Microsoft Outlook, involving a total of seven tasks, each with feedback for correct and incorrect performance. The tasks required learners to both click on simulated buttons and type text into data fields.

Prior to the shootout, each team was presented a storyboard showing the tasks to be taught. Teams also were allowed to cut and paste text from an electronic storyboard document during the live event, as long as they didn't pre-build any section of the simulation. The goal of each team was to create their simulation as

BY BRYAN CHAPMAN

quickly as possible, yet simultaneously include as much interactivity as possible in the finished e-learning module. The task was considered complete once the team could run the resulting course material successfully through a browser.

Rather than have a panel of judges rate the teams based on an artificial set of pre-determined criteria, we decided to make this a more meaningful competition by asking audience participants, many of whom were developers or potential buyers of e-learning, to rate each team's performance in four categories: speed of development, ease of use, robustness of simulation and an overall rating.

While understanding that this introduces a certain level of subjectivity to the shootout, we feel that a collective "group subjectivity" allows you to assess e-learning solutions in an entirely different light, based on the common experience of a knowledgeable e-learning developer community.

The results reported in the following tables show how each team faired, based on its actual time of development posted during the competition, which shootout they attended—Los Angeles and/or London (you'll notice that several teams participated in both events), and their ranking, as determined by our audience judges.

In looking at the charts, you'll notice some interesting anom-

London Shootout, March 5th & 6th, 2002

Fastest Finish Time

Company (Simulation Product)	*Time (minutes/seconds)*
Global Knowledge (OnDemand) kp.globalknowledge.com	2:16
X.HLP Technologies* (X.HLP Designer) www.xhlp.com	4:18
Xstream Software (RapidBuilder) www.xstreamsoftware.com	4:38
Global Competency Systems (RAD Author) www.radauthor.com	5:51
Outstart (Softsim) www.outstart.com	6:44
Productivity Center (Virtual Profesor) www.prodctr.com	8:23
Qarbon (ViewletBuilder) www.qarbon.com	12:45
MaxIT (DazzlerMax) www.maxit.com	13:06

London Shootout Top 3–Ease of Use *(out of 10)*

Qarbon	7.52
Global Knowledge	7.33
Global Competency Systems	7.26

London Shootout Top 3–Robustness of Simulation *(out of 10)*

Qarbon	7.90
XStream Software	7.39
Global Competency Systems	7.14

London Shootout Top 3–Overall *(out of 10)*

Global Knowledge	7.76
X.HLP	7.67
XStream Software	7.42

Los Angeles Shootout, October 1st, 2nd & 3rd, 2001

Fastest Finish Time

Company (Simulation Product)	Time (minutes/seconds)
RWD Technologies (Info Pak Simulator) www.rwd.com	4:03
X.HLP Technologies* (X.HLP Designer) www.xhlp.com	4:18
Xstream Software (RapidBuilder) www.xstreamsoftware.com	6:50
Knowledge Mechanics (Knowledge Mechanics) www.knowledgemechanics.com	7:31
EDT Learning (IST Author) www.edtlearning.com	7:44
AMT Learning Solutions (CBI Quick) www.amtcorp.com	10:20
Global Knowledge (OnDemand) kp.globalknowledge.com	10:37
Click2Learn (Toolbook) www.click2learn.com	13:48
Macromedia (Authorware) www.macromedia.com	15:45
MaxIT (DazzlerMax) www.maxit.com	17:35
Qarbon (ViewletBuilder) www.qarbon.com	18:32
Avaltus (Jupiter) www.alvatus.com	19:39

*Interesting side note: X.HLP had identical times of 4:18 in Los Angeles *and* London with two different people at the computer creating the simulations.

Los Angeles Shootout Top 3–Ease of Use *(out of 10)*

RWD Technologies	8.4
EDT Learning	8.4
XStream Software	7.92

Los Angeles Shootout Top 3–Robustness of Simulation *(out of 10)*

EDT Learning	8.64
Macromedia	7.82
Global Knowledge	7.67

Los Angeles Shootout Top 3–Overall *(out of 10)*

EDT Learning	8.39
RWD Technologies	8.32
XStream Software	8.07

alies. For example, the fastest time didn't always determine the highest overall score. In Los Angeles, EDT Learning was the only team to record live audio on site during the development. Although they finished 3 minutes and 41 seconds slower than the fastest team (RWD Technologies with a time of 4:03), they grabbed a first-place finish by scoring high in the areas of Ease of Use and Robustness of Simulation.

On the other hand, Global Knowledge decided to change its strategy for the London Shootout. Using text-to-audio as the feedback mechanism, the company cut more than 8 minutes from the development time recorded in Los Angeles (10:21), which enabled it to complete the development task in an amazingly fast 2:16, and so grab the top spot in London.

Audience participants were very positive about the shootout format. "Personally, I felt that the Software Simulation Shootout was the most valuable event at the conference," said David Brown, e-learning evaluation manager for PricewaterhouseCoopers. "Marketing professionals are hired specifically for their ability to couch descriptions of their products and services in the most positive terms possible. By having the companies all together in a head-to-head competition, potential clients were able to eliminate all the usual propaganda. As one whose principal role involves the evaluation of online learning products, I was especially gratified by the opportunity to finally be able to compare 'apples-to-apples' in real time."

The shootout event also helped several companies select and purchase e-learning simulation products to solve their immediate needs. Jenell Blue of Wonderware Corp., a maker of large-scale industrial automation software, selected RapidBuilder from XStream Software because she found that it went beyond the capabilities of other software by allowing her to easily record screen interactions.

At the same time, another member of the audience, Mike Kemmler from Equity Office, a commercial real estate company, chose Info Pak Simulator from RWD technologies because it allows developers to produce one simulation, yet deploy three different configurations: step-by-step tutorial mode, practice mode and exam mode.

Our hopes and expectations in creating the scenario for this shootout were to bring exposure to solutions designed to productively build software simulations, short of creating them manually using programming tools. As technology advances and innovations appear, shootouts will be a great additional assessment aid in selecting appropriate e-learning solutions. For more details on the shootout results or to see actual output of the e-learning courses created during the shootouts, visit www.brandonhall.com/public/simshootout/

Bryan Chapman, our shootout referee, is an e-learning analyst for reasearch firm brandon-hall.com.

WATCH FOR THESE UPCOMING SHOOTOUTS:

Legacy Content Conversion Shootout (converting PowerPoint, Word, Flash and Dreamweaver into online learning) at Training Directors Forum, June 10-12, in Las Vegas.

An expanded version of the Legacy Content Conversion Shootout at Online Learning Conference, September 23-25, in Anaheim, Calif.

LMS Shootout: Small to Medium-Sized Implementations at Online Learning Conference, September 23-25, in Anaheim, Calif.

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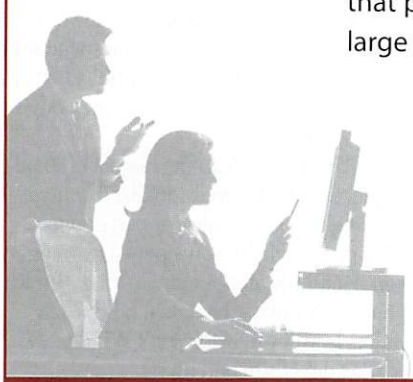

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industry watch

BY CLARK ALDRICH

Don't Look Down

E-LEARNING HAS INDISPUTABLY come a long way. Before there was the Internet, the training industry was made up of a host of small production companies, cobbling together graphics and video, content and "instructional design." With the advent of connected machines came better collaboration, distribution and management tools. The name "e-learning" was coined. More than $1 billion was invested in emerging technologies. Conferences were filled with never-before-heard-of companies whose biggest challenge was trying to explain what they did.

"THE BAD NEWS IS THAT MOST E-LEARNING COMPANIES ARE STRUGGLING IN A MARKET PURGATORY..."

The good news is that despite the last 12 months, the dream of e-learning is alive and well. Companies that are doing e-learning right are better serving their customers, employees and shareholders. And even the events of 9/11 underscored the global opportunity for teaching the world.

The bad news is that most e-learning companies (although there are some notable exceptions) are struggling in a market purgatory, neither growing nor going away, prevented from goals of profitability and investing in new technologies, and fighting over a fixed set of customers. Meanwhile, conferences feel more like survivor's reunions than bustling market squares.

This bifurcation between vision and business model has created widespread doubt. There is a lack of confidence from virtually all camps—users, sponsors, vendors and investors. The irony is that just three related events, all possible within the next year or two, will both cause and correlate with the shifting of e-learning from being the province of visionaries and mercenaries to being a steadily growing, valued component of a corporation's strategy, an investor's portfolio and a nation's GDP.

One answer, it should be said, isn't the economy. E-learning should thrive in a downturn, and in plenty of cases it is, even if sales cycles are longer. And the stepping in of large companies like Sun, PeopleSoft, SAP, Oracle and IBM won't necessarily help. Actually, most of those companies are stepping back in after they stepped out, which is why, I believe, faith in them would be misguided.

A Complex Ecosystem

First, the industry needs courses that appeal to a much broader audience. This will supplement and enrich today's niche courses, not replace them.

If you doubt the importance of this, look at every media genre, from magazines and newspapers, to television, books and movies. They all have broad genre-definers at the top, from *Newsweek*, *Sports Illustrated*, *The New York Times* or *USA Today*, to "Seinfeld," "ER," or earlier, "Roots," "Star Wars" and "Saving Private Ryan." It is fair to say that *In Search of Excellence* launched the modern business-book genre by becoming the first must-read. Whatever the media, these widespread examples are the center of cafeteria conversations, meeting references and even e-mail jokes.

These common touchstones define the industry, pull new people into it, and even remind people who strayed to come back. Many people who went and saw the Broadway hit "The Lion King" hadn't been to a musical in years. And they brought their kids.

Buzz isn't just for established media, of course. Virtually all young industries grow through word of mouth. They grow through influential people ("hubs" in buzz-speak), convincing other people about the value of the products. Although I personally had read plenty of articles about PDAs, for example, it was not until I sat next to a senior partner at a consulting company on an airplane home that I got a personal tour and a taste of zeal that convinced me to buy my first Palm III the next day.

Certain people don't feel that the subscription model used by e-learning providers ElementK, Thomson/NETg, DigitalThink and SmartForce could produce this type of exciting content. They say selling two- and three-year commitments puts more emphasis on good salespeople than good courses. I couldn't disagree more.

HBO was in a similar position when it put out a string of original hit programming, including "Sex and the City" and "The Sopranos." Those shows were frequently referenced in magazines, newspapers and chat rooms. Further, HBO sold the shows, packaged in series, to everyone else who was not a subscriber. HBO viewership has soared. Herman Miller followed a similar successful strategy with its Aeron Chairs. I can't wait until a library vendor builds similarly innovative programs and adopts a similar distribution strategy.

Buzz is contrary to today's e-learning dogma of smaller and smaller pieces of highly individualized content delivered increasingly more seamless as part of our work process. It brings back the concept of a learning sabbatical, even if it is only an hour or two long. But we will know when buzz-thinking has taken hold when e-learning vendors learn from Microsoft's Windows 95 roll out and market directly to end users.

Fewer, Stronger Vendors

There are just too many learning management systems and learning content management systems out there. Today, there are roughly 75 vendors that have appeared on more than five RFPs in the United States alone this past year. The point should be obvious: This market desperately needs consolidation. Specifically, we need about six combined systems, *including* those offered as part of a larger system like SAP or PeopleSoft.

With six vendors, we would no longer have all of these conversations about lowest common denominator standards. Content providers would work with the limited group to push the boundaries, not hope for interoperability. The six winners would have the ability to invest in R&D and better partnerships with systems integrators. Best practices could propagate. More vendors would appear to add more deeply functional add-ons.

Although some of the bigger players enjoy this prospect, perhaps they shouldn't. When this does happen, at least two of the six systems will be from companies you and I have never heard of today.

Note to Microsoft: If we can't do this in two years, just build the functionality into your Outlook/Internet Explorer hybrid and put us out of our misery. As a bonus, it will give you a chance to get back into the content database game and irk Oracle. (And hire back all of the LRN people you sacked.)

A Portfolio of Reviews

The final piece that this industry needs is more high-quality reviews of e-learning technology, content and services. It is very hard for the average procurer of e-learning to find a good portfolio of reviews. There are a bunch of reasons for this, although none preclude changes in this area in the near future.

Every reviewing organization, including IDC, Gartner, SPEX (META), and brandon-hall.com, makes a lot of money off the vendors they are reviewing (unlike, say, *Consumer Reports*). Actually, it is worse than that. Every reviewing organization makes money off *some* of the vendors they are reviewing. I have heard from more than a few e-learning providers that the amount of listening they got from an analyst directly related to the size of their account with the analyst's firm.

There aren't too many reviewing organizations, and all have content that is expensive. This precludes any buyer from gathering three or four reviews to compare and contrast (and over time choosing the source they trust the most). Broadly accessible sources, like CNET and magazines including *InformationWeek*, *eWeek* and *InfoWorld*, have done some reviews, especially in the virtual classroom space, but none recently.

There are also too many vendors and too few reviewers, so each review tends to not be as deep as it could be. In some cases, presumed experts merely repurpose the vendor perspectives and miss entirely the relevance of the customers' actual use of e-learning. Other analysts don't publish the criteria they use for evaluation, nor the methodology. In this post-Enron world, the analyst's claim of "trust me, I am an expert" has become less credible.

Finally, vendors put out updates frequently enough on both content and technology that reviews go out of date quickly.

For content, anyway, there could have been a great evaluation model, more akin to epinions.com and Amazon.com than *Consumer Reports*. Back when portals were hot, several companies, including the company that became Thinq, were creating a great user comment board around individual courses. That model could have worked, and I suspect will work eventually. Otherwise, it is just too difficult for any company, including Lguide, to keep up with the volume of courses out there.

A Tightrope

The three events are highly connected. Credible, helpful reviews will help narrow the field of vendors considerably. Narrowing the field of vendors will help create credible, helpful reviews. Fewer vendors means better content. Better content will inspire more mainstream magazines to write better reviews.

As these three milestones are achieved, e-learning will finally reach a much wider audience at a more profound level. Unless these are achieved, it is doubtful that e-learning will grow at the kind of rate needed to attract top-rate customers and employees.

The situation reminds me of an image put forth by German existentialist Friedrich Nietzsche: "Man is on a rope," he wrote in *Thus Spake Zarathustra*, "suspended between animal and superman—a rope over an abyss." Well, e-learning is on a rope, suspended between being another piece of IT infrastructure and the enabler of the next significant business competitive advantage. And yes, don't look down. There is no net.

Clark Aldrich (clark.aldrich@att.net), a former analyst for Gartner Group, is an independent e-learning analyst, speaker and consultant.

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Nuts & Bolts

BY PATTI SHANK

YOUR BOSS GIVES YOU a thumbs-up to forge ahead with a new course-development project—an online performance management series that your group has been pitching. OK … now what? If your answer is "Figure out what topics need to be taught," you'd be on familiar instructional design/curriculum development ground … but you'd be wide of the mark. A better answer is to look at what people in the real world need to be able to *do* with that content. It may be a subtle difference, but it makes *all* the difference.

What To Teach?

Rethinking content and interaction for online learning.

So, for the proposed performance management course, instead of developing a list of topics and looking for content and activities to cover those topics, it'd be better to pursue the challenges that *real* managers face when dealing with *real* performance management issues in the *real* world. Our goal isn't to teach topics, per se, but to help learners deal with reality the way the experts do.

Who Says So?

The research on transfer of learning suggests that the best transfer comes from learning within the context it will be used. We assume that this sort of thing takes care of itself, but in general, that just isn't the case. And if it doesn't happen (and it often doesn't), the instruction becomes something to get through (a "box-checking" activity), but has little impact on actual practice. Is that OK?

What's The Alternative?

Joni Dunlap, a professor in the School of Education at the University of Colorado, Denver, and I have worked on another way of thinking about designing instruction, based on the need to develop courses that affect real performance. We've been using it to train training directors and higher education faculty and are seeing changes in online course design as a result.

Here are some of the main questions we use to frame the design of online courses:

Problems of practice: Given the parameters of the course, what problems will practitioners (folks whose job it is to deal with this content) face?

Processes: What are the common processes, products and resources used by expert practitioners when solving these problems?

Assessment: How do expert practitioners know when they have successfully tackled the problem? For that course in performance management, for instance, we would talk to experienced managers and human resource personnel to get a feel for the typical issues. Let's say that one of the consistent issues is that managers don't know how to equitably deal with employee absences. The process used by experts to deal with this problem includes consulting the employee policy manual, discussions with human resource personnel and documenting actions. If done well, employee attrition, bad working relationships, and/or lawsuits (related to doing it wrong) are reduced or eliminated. I've intentionally made this pretty simplistic, so you probably have a good picture of where I'm going.

How does instruction developed from this point of view differ from coming up with a list of performance management topics and figuring out how to present them? It's more authentic, relevant and meaningful for learners, and it's just what's needed for training to transfer to real job performance.

Interaction Revisited

Design of instruction, from this point of view, assumes that the purpose of interaction (whether with content or people) serves to make the training authentic, realistic and meaningful. Since practitioners solve performance management problems by dealing with people, people interaction becomes integral to making the course realistic and meeting the learning objectives.

Valorie Beer, in her *Web Learning Fieldbook* (Jossey-Bass, 2000), emphasizes that human interaction in online courses is needed to provide context for working on real workplace learning issues—real issues, real discussions, real dilemmas. "Skills and knowledge are learned and applied in an environment of collaboration, coordination and negotiation. While acquiring information may be an individual task, creation of knowledge is not, as it is from … peers, managers and customers that your employees get feedback on the correctness and effectiveness of their knowledge and skill." I agree. Content interaction alone (in most cases) just doesn't allow learners to realistically learn how to cope with many of the problems practitioners face.

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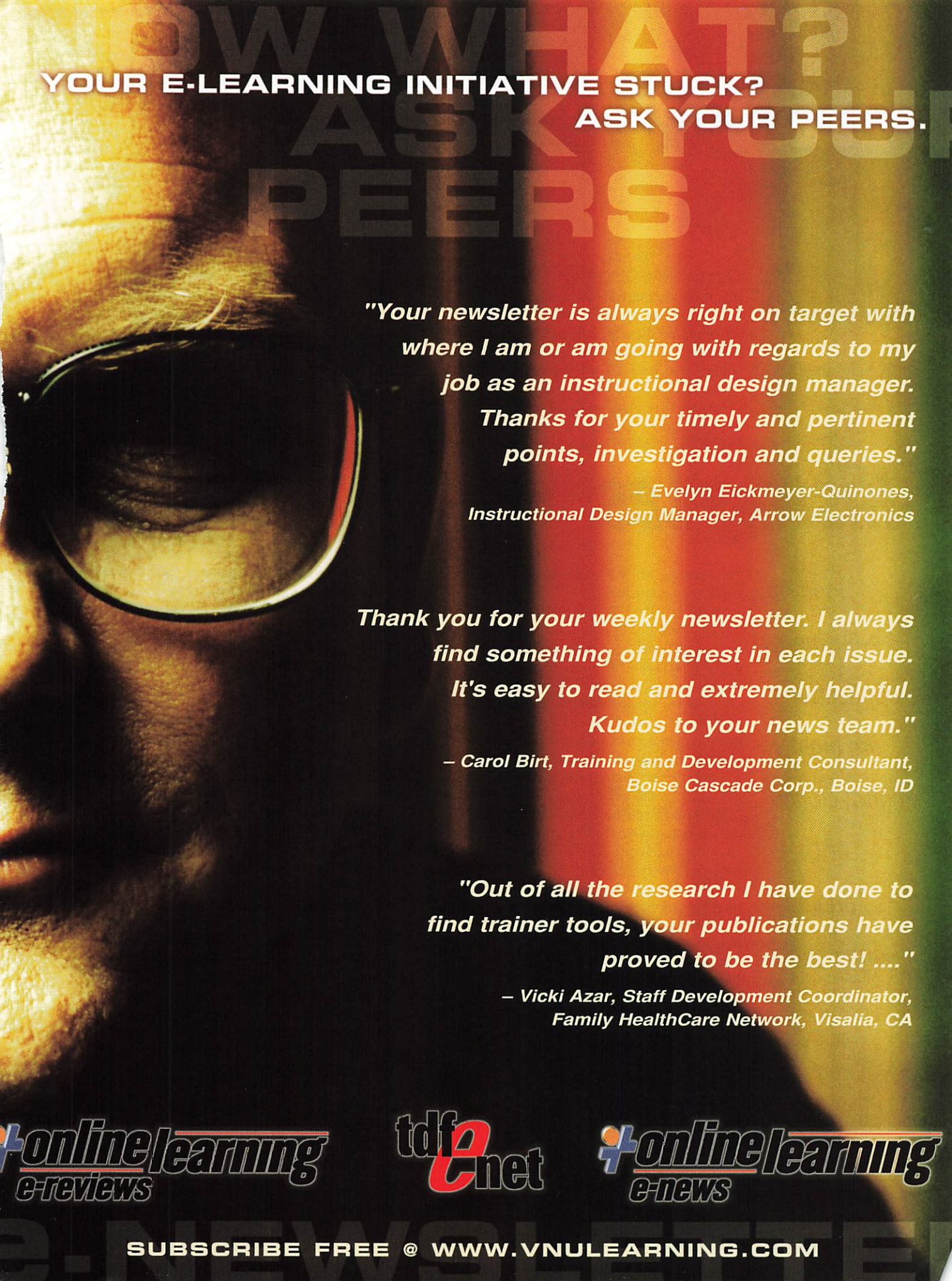
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soapbox

BY TONY O'DRISCOLL

History Lessons

TODAY, THE PRINTING PRESS and the steam engine are recognized as technological revolutions that changed the world. However, Peter Drucker points out that these revolutions took more than a half century to unfold. During its first 50 years, the printing press was used to automate the transcription of Latin Bibles. It was not until Luther used this technology to print his version of the Bible that the true impact of the printing press was felt. Access to Luther's Bible in the German language ushered in Protestantism, which revolutionized 16th century politics and economics.

Today's e-business applications are merely digital clones of their "analog" analogues.

Similarly, in the 17th century Watt's steam engine was originally used to automate existing manufacturing processes such as spinning cotton. It took more than 50 years before the steam engine was used to power railroad locomotives. To this day, many economists and historians credit the steam engine as the technology that caused the most profound changes in our economic, social and political systems.

Today, the Internet is often heralded as the next technological revolution. Now more than 30 years old, it has recently gained much popularity and use in the business context. E-business applications such as e-procurement and e-tailing have become customary and have created enormous wealth for "dot-com" entrepreneurs.

Nonetheless, today's e-business applications are merely digital clones of their "analog" analogues. These applications focus on automating existing business processes rather than applying the technology to revolutionize the world by doing business differently. Once again, a clear case of history repeating.

Thanks largely to John Chambers' now infamous quote "e-learning will be so big, it will make e-mail look like a rounding error," e-learning is the newest darling of the e-business revolution. However, as I survey the current application technology to training, it is clear that we have not paused to ponder the lessons learned from the monks, the industrialists or the dot-com billionaires (and now dot-bomb paupers).

What I observe is a familiar pattern of applying radically new technology to automate age-old processes and methods without any consideration as to how we might leverage the attributes of Internet technology to enable different modalities of organization-wide learning. In our haste to jump on the e-learning bandwagon, we have forgotten to question our original assumptions with regard to how learning will be conducted in the future.

In essence, our technolust has blinded us to the opportunities that the Internet offers. We do not see the Internet as an enabler of informal learning but rather as an "automater" of the formal instructional design process. We have failed to recognize that the collaborative aspects of the Internet allow for four modalities of interaction: teacher-to-teacher, teacher-to-student, student-to-teacher and student-to-student. We have yet to understand the power of just-in-time information within the work context as a powerful alternative to just-in-case instruction prior to the work activity. To my mind, we don't need new technology to improve organizational learning, we just need new thinking.

Given this prologue, here are some hypothetical "what-ifs" that we might want to consider:

What if we collectively recognized that we were, in fact, falling into the same traps as the monks, industrialists and dot-commers by applying a revolutionary technology to automate our past?

What if, instead, we recognized the Internet as an enabler of both formal and informal learning?

What if we shifted our pedagogical paradigm from teacher-centered to learner-centered?

What if we viewed ourselves as facilitators of self-directed learning communities where the full collaborative might of the Internet is wielded to build relationships and foster innovation within the organization?

What if we, as the stewards of learning within organizations, collectively began to think about the Internet this way? Would it make a difference in how we make decisions regarding the application of learning to technology? Would Chambers' prediction about e-learning become manifest?

If so ... what are we waiting for?

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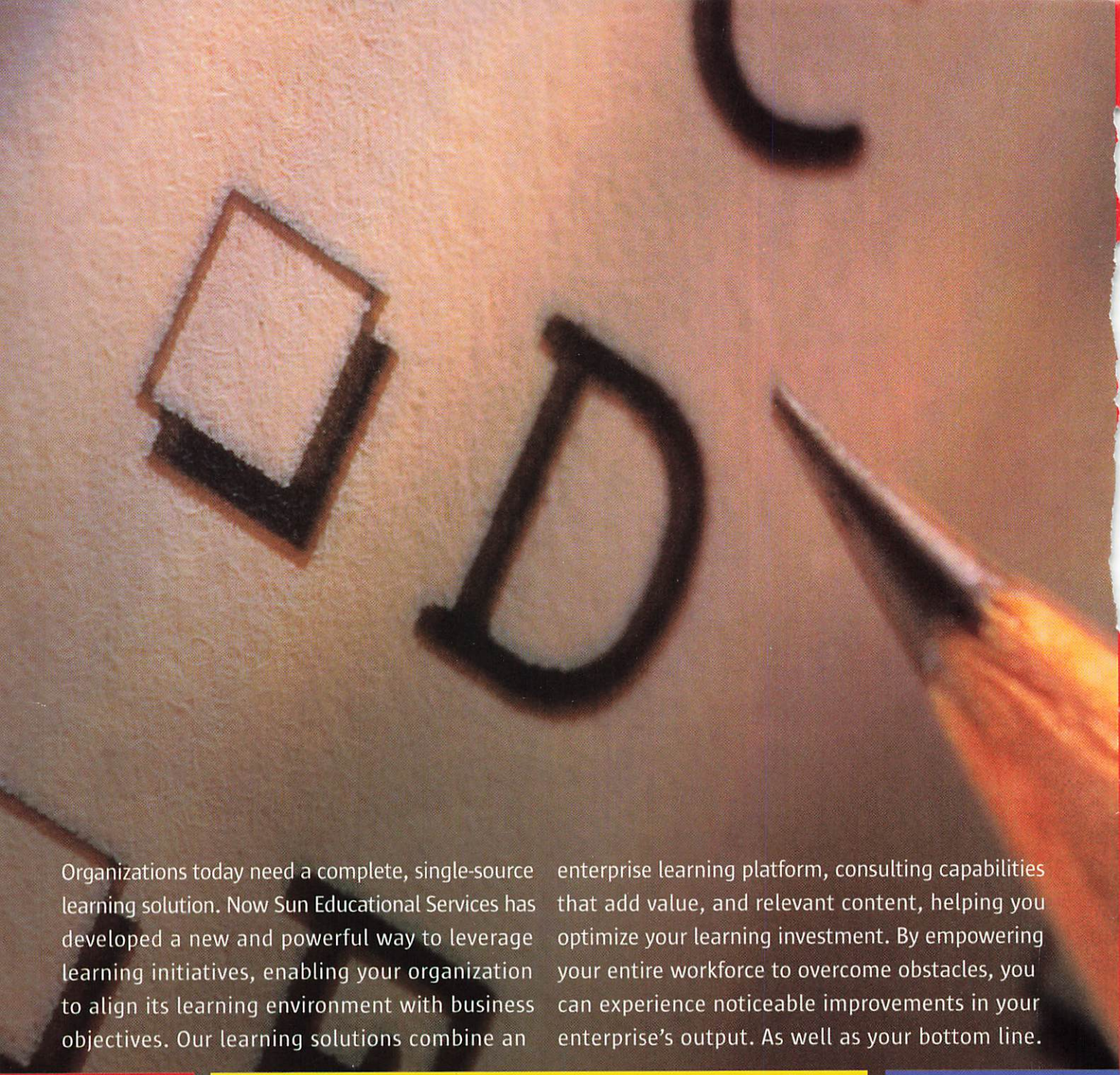

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